Chapter 1

Summary

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SUMMARY

This chapter provides a summary of the Draft Environmental Impact Statement for the Tukwila South Project. It briefly describes the Proposed Actions and the range of development alternatives (one of which is the No Action Alternative); it also highlights probable significant environmental impacts, mitigation measures and significant unavoidable adverse impacts. A brief summary of the public EIS scoping process is provided. A matrix in this chapter contains a comparative overview of impacts identified for the Proposed Actions and alternatives.

Summary of the Proposed Actions and Alternatives

La Pianta LLC is proposing a master plan (Tukwila South Master Plan) and long-term development of up to approximately 14 million square feet in a large-scale, campus setting on approximately 498 contiguous acres located in the City of Tukwila and portions of unincorporated King County and the City of Kent that lie due south of the City. The vast majority of the site is under the control of a single property owner. Proposed uses are campus-style office and research environments with an array of commercial, retail, residential, hotel and recreational uses. Overall, the site would be developed to accommodate the needs of national and international companies and institutions specializing in emerging technology industries that have need of an integrated campus setting with expansion opportunities, a range of other uses, and adjacent amenities. The project is intended to create a major new employment hub and to implement the new vision and policies for the Tukwila South planning area outlined in the City of Tukwila's Comprehensive Plan (2004).

The Tukwila South site lies within the City of Tukwila's Tukwila South planning area, which extends from S 180th Street in the City of Tukwila to S 204th Street in King County. The site is proximate to SeaTac International airport and the regional transportation infrastructure network (I-5, I-405, and SR 167). General site boundaries are S 178th/S 180th Street on the north; S 204th Street on the south; Orillia Road and Interstate-5 on the west; and the Green River on the east.

Proposed Actions

The Proposed Actions for the site include:

- City approval of a Master Plan for the site;
- Designation of the site as a Sensitive Area Master Plan Overlay district and approval of a Sensitive Areas Master Plan for the site;
- Approval of other development-related code amendments relevant to site development (including modifications to the zoning and subdivision sections of the Municipal Code);
- A Development Agreement between the City of Tukwila and La Pianta LLC (under Chapter 36.70B RCW);
- Permitting and construction of infrastructure, buildings, roads and other improvements over the buildout period (i.e. grading, shoreline substantial development, site plan approvals, building permits); and,
- Extension of the City's Shoreline Master Plan map designation of Urban to the annexed portion of the site within the shoreline management jurisdiction.

Implementation of the overall Tukwila South Master Plan calls for construction of the major infrastructure elements in the initial phase. Installation of major infrastructure elements in the initial phase is intended to advance the long-term vision for emerging technology industries in the region and to facilitate future development of the Tukwila South site in a more coordinated and timely manner, allowing future development to efficiently respond to market conditions through buildout of the site. The initial infrastructure phase would include the improvement of Southcenter Parkway from S 180th Street to S 200th Street and the realignment of S 178th Street.

This Draft EIS is intended to include a sufficient level of analysis and detail to support federal, state, and local permit decisions related to both the initial site preparation and infrastructure development phase (refer to the Fact Sheet of this Draft EIS for a list of required permits and approvals), as well as to support permit decisions for long-term development of the site.

The probable, significant environmental impacts of the Tukwila South Master Plan are evaluated for two primary time periods:

- Infrastructure Development Phase (2006 – 2008)
- Full Buildout (assumed by year 2030).

Infrastructure Development Phase

Major site preparation and infrastructure development is proposed at the outset of the project. This includes establishing site grades as part of a comprehensive earthwork program, extension of the major roadways (including the Southcenter Parkway extension), installation of utilities and stormwater control facilities, relocation of an existing flood protection barrier dike, and construction of key features of a Sensitive Area Master Plan. Permit applications for initial construction activities may be submitted concurrently with (and subsequently to, in some cases) the EIS; however, no construction activity would occur on the site until after the EIS process is complete and all relevant permit decisions have been made. Elements of the infrastructure development phase are described in detail in Chapter 2 of this Draft EIS.

Full Buildout

To evaluate probable significant environmental impacts that could occur as a result of future, long-term development on the site, a range of development scenarios (alternatives) and accompanying level of detail and analysis has been included in the EIS. Three alternatives are evaluated (including a No Action Alternative) that encompass a broad range of land uses that the site could potentially accommodate in the future. Alternative 1 reflects a potential maximum development scenario that would be consistent with a campus-type, urban character (approximately 14 million square feet of new development). Alternative 2 would reflect a somewhat lower level of development (approximately 10.3 million square feet), also consistent with a campus character. Alternative 3, the No Action Alternative, would include approximately 2 million square feet of new industrial/warehouse and retail development on the site (refer to the Description of Proposed Actions and Alternatives in Chapter 2 of this Draft EIS). For purposes of analysis, full buildout of the site is assumed by the year 2030. However, it should be noted that actual development would be incremental and market forces, together with zoning regulations and development standards, would ultimately determine the specific timing and level of development, and mix of uses over the long term. As such, full buildout of the site could occur earlier or later than assumed for this EIS.

Purpose of the Environmental Review

This EIS is intended to provide decision makers with relevant information needed to consider for approval of the Tukwila South Master Plan, a Sensitive Area Master Plan, a grading permit and other relevant construction permits, and a Development Agreement between the City and the applicant, La Pianta LLC. The EIS addresses the probable significant environmental impacts that could occur as a result of the Proposed Action(s), as well as impacts from future development activities on the site area by the year 2030.

Pursuant to SEPA (RCW 43.21C.240) and the SEPA rules (WAC 197-11-158), many of the impacts of the public infrastructure and private development contemplated under this Proposal are already addressed by the development regulations or other applicable requirements of the City Comprehensive Plan and/or other local state or federal rules or laws. Accordingly, this EIS does not purport to duplicate the analysis or the list of mitigation measures in areas which are already adequately addressed by city, state, and federal regulations.

The EIS alternatives are intended to represent an overall envelope of potential development for analysis in this Draft EIS. They function to provide representative levels and types of development that could be achieved incrementally over the buildout period, based on the Proponent's Objectives, the City's Comprehensive Plan policies for the Tukwila South area, the proposed elements of the Master Plan and market conditions. It should be noted that the Infrastructure Development Phase would be the same under Alternatives 1 and 2. The elements of the Infrastructure Development Phase are common to both alternatives in order to be consistent with the Purpose and Need of the project, summarized in section 2-1 of Chapter 2.

Future development proposals may be required to undergo additional environmental review under SEPA (at the time specific applications for development are submitted to the City for review and approval), depending on the relationship of such proposals to the assumptions evaluated in this EIS. If actual development proposals are within the thresholds analyzed herein, it is anticipated that further environmental review would not be required.

EIS Scoping Process and Comments Received

The City of Tukwila issued a Determination of Significance (DS)/Scoping Notice for the Tukwila South proposal on July 28th, 2004 in accordance with SEPA (RCW 43.21C), the SEPA Rules (WAC 197-11) and the City of Tukwila SEPA regulations (TMC 21.04). The purpose of scoping under SEPA is to invite public comment regarding the scope of elements of the environment to be addressed in the EIS. The City of Tukwila received comments during the 21-day scoping period, which extended from July 28th, 2004 to August 18, 2004. A total of six comment letters were received. Comments were received from King County (Water and Land Resources Division), the City of Kent, City of SeaTac, City of Renton, the Highline Water District and King County Fire District No. 24. Following is a list of the key issues identified during the scoping process and a reference to where these comments are addressed in the Draft EIS.

- Annexation of the site and potential for high density development (Chapter 2, Description of the Proposed Actions and Alternatives).

- Integration of stormwater management with basin-wide floodplain management and development of a Master Drainage Plan *(Section 3.2, Water Resources; Appendix B, Master Drainage Plan).*
- Effects of modifying portions of the Green River levee system on its flood containment functions *(Section 3.2, Water Resources; Appendix B, Master Drainage Plan).*
- Effects of relocating the "flood protection barrier dike" on the Johnson Creek floodplain; integration of the "flood protection barrier dike" with the Green River levee system *(Section 3.2, Water Resources; Appendix B, Master Drainage Plan).*
- Restoration of Johnson Ditch relative to flooding potential, outlet controls, and fish passage *(Chapter 2, Description of the Proposed Actions and Alternatives; Section 3.2, Water Resources; Section 3.3, Plants and Animals; Appendices B and E).*
- Potential impacts to aquatic and wetland wildlife species; presence of fish in onsite ditches *(Section 3.3, Plants and Animals and Section 3.4, Wetlands and Appendices E and F).*
- Evaluation of critical area buffers for the Green River, Johnson Ditch/Creek, fish-bearing ditches, wetlands, and steep slopes *(Section 3.1, Earth; Section 3.2, Water Resources; Section 3.3 Plants and Animals; Section 3.4 Wetlands; Appendix L, Sensitive Area Master Plan).*
- Application of critical areas policies and regulations to the Proposed Actions *(Section 3.7, Relationship to Plans and Policies; Appendix L, Sensitive Area Master Plan)*.
- Consideration of opportunities for salmon habitat restoration in the Green/Duwamish River watershed *(Section 3.3, Plants and Animals; Appendix E; and Appendix L, Sensitive Area Master Plan)*.
- Evaluation of shoreline regulations *(Section 3.6, Land and Shoreline Use; Section 3.7, Relationship to Plans and Policies)*.
- Drainage basin upstream of the project area, including management of flows generated by upstream areas *(Section 3.2, Water Resources).*
- Fire protection and public safety, including emergency response time to the Tukwila South area *(Section 3.15, Public Services).*
- Source of water supply and the provision of water service *(Section 3.16, Utilities)*.
- Provision of park and recreational facilities onsite, including regional trail opportunities *(Section 3.9, Parks and Recreation)*.
- Scope of transportation study area *(Section 3.12, Transportation)*.
- Impacts to the City of SeaTac, City of Renton and City of Kent transportation systems from the Tukwila South proposal *(Section 3.12, Transportation)*.
- Potential air quality impacts at intersections with lowered levels of service *(Section 3.13, Air Quality)*.
- Potential impact of the Tukwila South proposal on adjacent development in the City of SeaTac and the SeaTac Urban Center *(Section 3.6, Land and Shoreline Use)*.
- Potential impact of Tukwila South proposal on the Highline School District, and the City of SeaTac's Police and Fire Departments *(Section 3.15, Public Services)*.
- Potential for increased demand on City of SeaTac park and recreational facilities *(Section 3.9, Parks and Recreation)*.

Summary Matrix

The following matrix table highlights the probable significant environmental impacts that would result from the Proposed Actions and future development under the three alternatives. The impacts that would result from Alternative 1 are listed in the left column of the table, and the impacts from Alternatives 2 and 3 (No Action Alternative) are compared to them. The table also

includes mitigation measures for impacts that could result from the Proposed Actions or from implementation of these actions through development. Significant unavoidable adverse impacts are also identified, as applicable.

Note that "Johnson Ditch" is used in this document to refer to the watercourse in its existing condition as a ditched stream; "Johnson Creek" is used to refer to the watercourse in its proposed realigned condition; the drainage basin for the watercourse is referred to as the "Johnson Creek basin". For an explanation of the City of Tukwila's regulated watercourse definitions, see Section 3.2, Water Resources, and Section 3.2, Plants and Animals including Table 3.3-1.

Alternative 1	Alternative 2	No Action Alternative
EARTH **Significant Impacts**		
• Studies conducted for this EIS indicate that the site is suitable from a geotechnical standpoint for development as contemplated by the Proposed Actions.	• Same as under Alternative 1.	• Same as under Alternatives 1 and 2.
• During infrastructure development, the site would be mass graded, and roads, utilities and comprehensive temporary and permanent stormwater control facilities would be installed. The flood protection barrier dike and habitat mitigation plan elements would also be constructed.	• Same as under Alternative 1.	• No initial infrastructure development phase would occur. Mass grading would be more limited. Stormwater control facilities would be installed as needed for new development. The flood protection barrier dike relocation and habitat mitigation implementation would not occur.
• Approximately 1.4 million cubic yards of cut would be required during infrastructure development. Of this cut material, approximately 1.16 million cubic yards would be used onsite as fill. Approximately 500,000 cubic yards of fill would be imported to the site for preloading to establish finished grades.	• Same as under Alternative 1.	• Less grading overall would be required than under Alternatives 1 and 2.
• Clearing and grading activities during infrastructure development would increase erosion potential. Temporary erosion and sediment control (TESC) Best Management Practices (BMPs) measures would be implemented during infrastructure development to preclude significant impacts.	• Same as under Alternative 1.	• Erosion potential would be similar or less than under Alternatives 1 and 2, as no initial infrastructure development phase would occur. There would be no increase in erosion potential south of the flood protection barrier dike. TESC BMPs would be implemented.
• Without mitigation, grading activities could result in potential adverse impacts, including sloughing of oversteepened temporary or permanent cut slopes, failure of fill soils due to improper placement and compaction, seepage from stormwater facilities which could promote landslides or erosion, or excessive foundation settlement.	• Same as under Alternative 1.	• Same as under Alternatives 1 and 2.

Alternative 1	Alternative 2	No Action Alternative
• Construction dewatering could cause consolidation and settlement of one inch or more within approximately 100 feet of any dewatering well. Any existing utilities in the immediate area would also experience some settlement, which could affect flow in gravity lines; however, no gravity lines exist in the area to be dewatered, utilities in Southcenter Parkway would be installed after dewatering occurs, and differential settlement from dewatering would likely be gradual and is not expected to be significant.	• Same as under Alternative 1.	• Less than under Alternatives 1 and 2 because no dewatering to construct restored Johnson Creek or the Green River Off-Channel Habitat Restoration Area would occur.
• Construction of temporary stormwater retention areas or unlined temporary collection systems could cause groundwater mounding, without mitigation. Where this occurs above steep slopes, new springs could form, or flow at existing springs could be increased resulting in erosion along the slope. Erosion from these areas could enter stream channels or cause the oversteepening of the slope and trigger landslides, without mitigation.	• Same as under Alternative 1.	• Same as under Alternatives 1 and 2.
• Any uncontrolled stormwater runoff or wetland discharge from infrastructure development could cause erosion in the onsite stream channels, without mitigation.	• Same as under Alternative 1.	• Same as Alternatives 1 and 2, although no initial infrastructure development phase would occur.
• Erosion hazards impacts are most likely to occur where mass grading occurs in or near moderately high to very high erosion hazard areas (Zones 2, 3 and 4; see Figure 3.1-2). This would include grading in Planning Areas B, G and I (see Figure 2-3), and along portions of the Southcenter Parkway extension where cuts would occur at the base of the western slope and where construction activities affect the banks of the Green River, in a high erosion hazard area.	• Same as under Alternative 1.	• Less erosion hazard impact than under Alternatives 1 and 2, because mass grading and grading in high erosion hazard zones would be more limited.
• Excavation for the Green River Off-Channel Habitat Restoration Area, for the new stormwater outfall to the Green River, abandonment of the existing Johnson Ditch floodgate and outfall, and for the mouth of the new Johnson Creek could affect the banks of the Green River, in a high erosion hazard area (Zone 3), without mitigation.	• Same as under Alternative 1.	• No impacts to the banks or the Green river would occur from creation of the habitat restoration area or realignment of existing Johnson Ditch, since these activities would not occur.

Alternative 1	Alternative 2	No Action Alternative
• Uncontrolled stormwater discharge onto sloping areas or streams could cause erosion, undermine steep slopes, and cause landslides. Concentrating stormwater on uplands above steep slopes could increase infiltration and cause spring discharge to increase, potentially triggering landslides. Stormwater on the site would be directed into coordinated temporary and permanent stormwater facilities.	• Same as under Alternative 1.	• Similar to under Alternatives 1 and 2; however, stormwater control may or may not occur as a coordinated system.
• Uncontrolled clearing could increase the existing landslide hazard potential of moderately high to very high erosion hazard areas (Zones 2, 3 and 4) by removing the vegetation that would normally reduce the runoff volume and rates. Concentrated stormwater runoff on cleared slopes could precipitate erosion and oversteepening of the hillside and result in slope instability, without mitigation.	• Similar to under Alternative 1.	• Less landslide hazard impact than under Alternatives 1 and 2, because mass grading and grading in high erosion hazard zones would be more limited.
• Seismic induced damage could occur in areas which are converted from an undeveloped condition to a more developed condition. The potential for liquefaction to occur on the site during a large seismic event is high, without mitigation.	• Same as under Alternative 1.	• Similar to under Alternatives 1 and 2.
• Full buildout would include final site grading, as needed, including import of a portion of the approximately 500,000 cubic yards of fill for preloading and to establish finished grades for future building and onsite road development, and future foundation placement and building construction.	• Same as under Alternative 1.	• Less overall grading would be required than Alternatives 1 and 2.
• At full buildout the potential for significant erosion and landslide impacts would be considerably less than during the infrastructure development phase, because mass grading would be completed and a comprehensive stormwater management system would be in place. Any uncontrolled stormwater could still pose a risk after development, however, particularly on steep slopes.	• Same as under Alternative 1.	• Similar to under Alternatives 1 and 2.
• No development is planned for areas draining to onsite Streams H, E-3, E-2, E-1, G and J-2; therefore, no erosion impacts to these stream channels would be anticipated during infrastructure development or at full buildout. The entire length of Streams C, D and Ditch J-1 would be	• Same as under Alternative 1.	• Similar to under Alternatives 1 and 2.

Alternative 1	Alternative 2	No Action Alternative
eliminated during the infrastructure development phase; therefore, no stream erosion impacts to these channels would occur. No stormwater runoff from developed portions of the site would be directed to Stream E, and no stream erosion impacts to Stream E would be anticipated.		
• A portion of existing Johnson Ditch would be filled and realigned into a more natural configuration during the infrastructure development phase. During full buildout, the new Johnson Creek would have little capacity to transport coarse sediment, and would have the capacity to transmit flood condition flows. Therefore, no stream erosion impacts to new Johnson Creek would be anticipated.	• Same as under Alternative 1.	• No fill/realignment of existing Johnson Ditch would occur and no stream erosion impacts would be anticipated.
Mitigation Measures		
• Major stormwater conveyance infrastructure would be installed within the Southcenter Parkway extension sufficient to convey stormwater runoff from the future buildout of the site to the permanent stormwater treatment and runoff control facilities.	• Same as under Alternative 1.	• Southcenter Parkway would be extended, but in a different alignment. Stormwater control may or may not occur as a coordinated system.
• All construction activities that could affect the banks of the Green River would comply with applicable regulations from the Tukwila Shoreline Master Plan. Projects constructed in accordance with the Shoreline Master Plan would be required to obtain a substantial development permit, which can dictate specific temporary erosion and sedimentation control/stormwater pollution prevention plan (TESC/SWPPP) measures.	• Same as under Alternative 1.	• Same as under Alternatives 1 and 2.
• A temporary and long-term construction stormwater management system would be installed during the initial infrastructure development phase, including the following (see Section 3.1, Earth and Appendix A for details on this system).	• Same as under Alternative 1.	• Stormwater control may or may not occur as a coordinated system.
• During all construction at the Tukwila South site, Best Management Practices (BMPs) outlined in King County's Surface Water Design Manual (King County, 1998) would be implemented. Per King County's guidelines, the erosion and sedimentation control (TESC)	• Same as under Alternative 1.	• Same as under Alternatives 1 and 2.

Alternative 1	Alternative 2	No Action Alternative
BMPs would be implemented during infrastructure and building development to address the potential for erosion. Specific BMPs to be implemented during future building and onsite road construction, would be outlined in geotechnical engineering reports and associated TESC plans for each specific project (see Section 3.1, Earth and Appendix A for details on the BMPS).		
• Isolated moderately high and high erosion hazard areas (Zones 2 and 3) in Planning Area I would be specifically delineated on the ground prior to mass grading (see Figures 2-3 and 3.1-2). Plans would be reviewed by the geotechnical engineer during the design process to evaluate the erosion risks, slope instability risks, and to provide specific mitigation recommendations designed to minimize the erosion hazard potential.	• Same as under Alternative 1.	• Same as under Alternatives 1 and 2.
• The moderately high and high erosion hazard areas (Zones 2 and 3) in Planning Area G would be specifically delineated on the ground prior to infrastructure development (see Figures 2-3 and 3.1-2). Mass grading plans would be reviewed by the geotechnical engineer to evaluate the erosion and slope instability risks, and to provide specific recommendations designed to mitigate erosion hazards.	• Same as under Alternative 1.	• Same as under Alternatives 1 and 2.
• During construction of the S 178th Street realignment, specific geotechnical recommendations would be implemented (see Appendix A for details).	• Same as under Alternative 1.	• No realignment of S 178th Street would occur.
• Construction activities for the Green River Off-Channel Habitat Restoration Area, the new stormwater outfall to the Green River, the abandonment of the existing Johnson Ditch floodgate and outfall, and for the mouth of the new Johnson Creek would comply with applicable shoreline regulations. Projects constructed in accordance with the Shoreline Master Plan would be required to obtain a substantial development permit, which can dictate specific TESC/SWPPP measures. Mass grading plans would be reviewed by the geotechnical engineer to evaluate the erosion risks, slope stability risks and to provide specific recommendations to minimize erosion hazard potential	• Same as under Alternative 1.	• The off-channel habitat restoration area would not be created and existing Johnson Ditch would not be realigned. Mitigation for mass grading would be similar to under Alternatives 1 and 2.

Alternative 1	Alternative 2	No Action Alternative
(see Appendix A for details).		
• During construction of the Southcenter Parkway extension, specific geotechnical recommendations would be implemented in relation to cuts into high and very high erosion hazard areas (Zones 3 and 4) along the base of the western slope (see Figures 2-3 and 3.1-2; see Appendix A for details).	• Same as under Alternative 1.	• No cuts would be required into the base of the western slope for the Southcenter Parkway extension.
• The geotechnical engineer would review the grading, erosion, and stormwater control plans prior to final plan design to further assist in recommending mitigation measures to address site-specific erosion hazards during infrastructure development.	• Same as under Alternative 1.	• Same as under Alternatives 1 and 2.
• BMPs would be implemented to reduce potential impacts to landslide hazard areas on the site and adjacent properties immediately upslope or downslope of hazard zones, such as Orillia Road, Interstate 5, the Bow Lake transfer station and landfill, and the Levitz Furniture store (see Section 3.1, Earth and Appendix A for details on these BMPs).	• Same as under Alternative 1.	• Same as under Alternatives 1 and 2.
• For Planning Area A, and portions of Planning Areas B, G and I, no fill, topsoil, or other debris would be placed over the top of high to very high landslide hazard areas (Zones 3 or 4). Any fill planned for slopes steeper than 5H:1V (Horizontal:Vertical) would be benched and compacted into the hillside. Depending on the proposed specific slope gradients, the use of retaining or erosion control structures could be required in these areas (see Figures 2-3 and 3.1-2).	• Same as under Alternative 1.	• Same as under Alternatives 1 and 2.
• No cuts would be made on or at the toe of moderately high to very high landslide hazard areas (Zones 2, 3 or 4), unless approved by the geotechnical engineer. Any proposed cuts elsewhere on the site would also be reviewed by the geotechnical engineer prior to mass grading to evaluate the risk of slope instability and to provide specific mitigation recommendations designed to minimize landslide hazard potential (see Figures 2-3 and 3.1-2).	• Same as under Alternative 1.	• Same as under Alternatives 1 and 2.

Alternative 1	Alternative 2	No Action Alternative
• The geotechnical engineer would be given the opportunity to review all grading, erosion, and drainage control plans prior to initiation of construction onsite to assist in reducing the landslide hazard risks.	• Same as under Alternative 1.	• Same as under Alternatives 1 and 2.
• During site-specific engineering, horizontal ground displacement calculations would be performed, considering site and soil conditions, to account for the possibility of horizontal ground displacement resulting from liquefaction-induced lateral spreading during an earthquake.	• Same as under Alternative 1.	• Same as under Alternatives 1 and 2.
• A settlement monitoring program would be developed and implemented to monitor settlement progress and determine when it would be appropriate to remove surcharge fill.	• Same as under Alternative 1.	• Same as under Alternatives 1 and 2.
• Mitigation measures for liquefaction would include soil improvement techniques (to reduce liquefaction hazard) and structural improvement techniques (to accommodate liquefaction effects) (see Section 3.1, Earth and Appendix A for details on these measures). Mitigation would be designed by a geotechnical engineer, and may consist of a combination of the above measures, or other equivalent measures.	• Same as under Alternative 1.	• Same as under Alternatives 1 and 2.
• All structures would be designed per International Building Code (IBC), or adopted successor code, guidelines to be able to sustain some damage from ground motion during a seismic event without causing life safety concerns.	• Same as under Alternative 1.	• Same as under Alternatives 1 and 2.
• Slopes to the west of the proposed realignment of S 178th Street would be further explored as part of the final roadway design to determine the specific presence, engineering properties and potential thickness of landslide material. Cuts would be evaluated to determine whether retaining walls and/or drainage improvements would be needed to maintain the stability of the cuts for the construction of the roadway.	• Same as under Alternative 1.	• No realignment of S 178th Street would occur.
• Other site-specific geotechnical recommendations would be provided by a geotechnical engineer in order to address potential earth-related	• Same as under Alternative 1.	• Similar to Alternatives 1 and 2; however relocation of the flood

Alternative 1	Alternative 2	No Action Alternative
impacts from infrastructure development and full buildout. A detailed list of geotechnical measures to address various infrastructure phase elements, including the relocated flood protection barrier dike, the new Green River levee (associated with the Off-Channel Habitat Restoration Area), Southcenter Parkway extension, the S 178th Street realignment, utility installation, stormwater ponds and outfalls, as well as geotechnical measures to address future building and onsite road development are described in Appendix A.		protection barrier dike, creation of the off-channel habitat restoration area and realignment of S 178th Street would not occur.
Significant Unavoidable Adverse Impacts		
• The potential for impacts due to liquefaction during a large seismic event would be high on portions of the site; liquefaction could affect considerably more development than under existing conditions. Implementation of mitigation measures would be intended to reduce the potential for significant impacts.	• Same as under Alternative 1.	• Similar to Alternatives 1 and 2; however, liquefaction potential would affect considerably less development, as less of the site would be developed.
WATER RESOURCES		
Significant Impacts		
• During infrastructure development, the site would begin to transition from a predominately pervious site to a developed site with impervious surfaces. Eighty-five (85) percent of all developed areas onsite were assumed to be covered in impervious surfaces at full buildout in this EIS.	• Same as under Alternative 1.	• No infrastructure development would occur. Less of the overall site would be covered with impervious surfaces than under Alternatives 1 and 2.
• The inflow pipes to the north and south stormwater control wet ponds are expected to be permanently filled with water for lengths that could exceed 2,000 feet, without mitigation. The backwater in the pipes would not impair the wet pond water quality treatment, but would make maintenance of the stormwater system more difficult and costly.	• Same as under Alternative 1.	• Same as immediately above.

Alternative 1	Alternative 2	No Action Alternative
• Site grading for the flood protection barrier dike would require filling portions of the Johnson Creek basin flood storage area (approximately 30 acres or 105 acre-feet of flood plain storage below elevation 22.0, the 100-year flood elevation). Based on the Hydrologic Simulation Program – FORTRAN (HSPF) analysis, the 100-year flood elevation in the Johnson Creek ponding area would not increase (at elevation 22.0).	• Same as under Alternative 1.	• The flood protection barrier dike would not be relocated.
• Dewatering would be required during construction around the Green River Off-Channel Habitat Restoration Area excavation, around the new Johnson Creek excavation, around the southern stormwater ponds, and for other construction elements requiring excavation below the alluvial water table or near wetlands, streams or springs. Dewatering (major or minor) discharge would not adversely affect water quality with the proposed mitigation to avoid or remove turbidity in the dewatering discharge.	• Same as under Alternative 1.	• Excavation for the off-channel restoration area, existing Johnson Ditch relocation and south stormwater ponds would not occur. Other construction element could require dewatering.
• During construction, unintended release of fuels, oil or hydraulic fluid could contaminate soils and, if untended or uncontrolled, migrate to groundwater or into surface water resources.	• Same as under Alternative 1.	• Same as under Alternatives 1 and 2.
• Construction dewatering has the potential to reduce water quantity to nearby water users in the alluvial aquifer. However, the nearest water user within the alluvial aquifer is located well beyond the radius of influence from any dewatering well; therefore, no probable significant impacts to water users from construction dewatering would occur.	• Same as under Alternative 1.	• Same as under Alternatives 1 and 2.
• Mass grading in Planning Area B could expose the $Qpog_2$ aquifer (an aquifer in the $Qpog_2$ sediments beneath the site). Under the proposal, any groundwater seepages would be conveyed downslope. No water users or springs are identified downgradient of Planning Area B; therefore, no probable significant impacts would occur.	• Same as under Alternative 1.	• Similar to Alternatives 1 and 2; however, mass grading in Planning Areas B, and its potential to impact water users or springs, would be more limited.
• The south basin discharges would be subject to the Green River Pump Operations Procedures Plan (POPP) requirements for runoff from developed portions of the site (the north basin is not subject to POPP).	• Same as under Alternative 1.	• Less development, including no stormwater control facilities, would occur in the south portion of the site.

Alternative 1	Alternative 2	No Action Alternative
The POPP requirements could require that discharges from the site to the Green River be suspended while the River is at flood stages. If unmitigated, this could result in flooding of portions of the project site.		
• The south pond and south pond overflows to the Johnson Creek basin were analyzed to determine if there would be any impacts if the south pond pump station were to be shut down for all durations that the Green River was flowing at or above 12,000 cubic feet per second (cfs). The analysis of the Johnson Creek basin floodplain with the south pond pump shut down showed that the floodplain would be maintained and would not exceed predeveloped levels.	• Same as under Alternative 1.	• Less development, including no stormwater control facilities, would occur in the south portion of the site.
• A backwater analysis of the major site stormwater pipes was performed. The King County Backwater model was used to size the stormwater conveyance pipes within the proposed Southcenter Parkway extension that would route runoff to both the north and south stormwater ponds. Proposed redevelopment would not increase the effective impervious area within the northeast basin because the majority of the basin is currently covered in impervious surfaces; therefore, any surcharging in the system would not likely be altered or exacerbated.	• Same as under Alternative 1.	• Similar to Alternatives 1 and 2. No additional surcharging would be anticipated (no redevelopment of the Segale Business Park in the northeast basin would occur under the No Action Alternative).
• During build-out, vehicles would deposit pollutants (i.e. heavy metals, petroleum products and solids) to roadways and parking areas, which would wash off with stormwater. Stormwater would also contain nutrients (i.e. nitrogen, phosphorus and potassium) pesticides and herbicides from landscape maintenance, and fecal coliforms related to residential development in general.	• Same as under Alternative 1.	• Fewer vehicles would use site roadways and deposit pollutants than under Alternatives 1 and 2. No residential uses, with their associated stormwater pollutants, would be developed.
• Overall, the proposed water quality treatment would result in an improved water quality condition onsite, improved water quality delivered to streams and wetlands, and improved quality of water reaching the Green River, relative to the existing condition. Water quality wetland functions for removal of metals and toxic organics as measured by Washington Functional Assessment Method (WAFAM)	• Same as under Alternative 1.	• Water quality would be somewhat better than under Alternatives 1 and 2, because development would not occur on the valley floor south of the existing flood protections barrier dike. Agricultural influences would continue

Alternative 1	Alternative 2	No Action Alternative
would be reduced slightly, but WAFAM water quality functions for sediments and nutrients would be increased significantly. The proposed stormwater quality treatment facilities would more than compensate for the slight drop in WAFAM measured metals and toxic organics function. Overall wetland functions, including habitat, would be increased.		in this area, however.
• Fecal coliform concentrations in discharge from the site would rise, although they would be within the observed background range in the Green River and would have no measurable influence on the Green River concentrations downstream of the site during any season. Best Management Practices (BMPs) are not suited to remove fecal coliforms and there are no effective alternative treatments for fecal coliform removal.	• Same as under Alternative 1.	• No residential uses, with their associated increases in fecal coliform levels, would be developed.
• Development occurring on the western hillside, has the potential to impact recharge to the $Qpog_1$ and $Qpog_2$ aquifers (aquifers within the $Qpog_1$ and $Qpog_2$ sediments beneath the site). However, this potential impact would not be expected to be a measurable impact, because the uplands are located in a groundwater discharge zone. Because no water users are located downgradient of the upland development, no impacts to downgradient groundwater usage as a result of a reduction in groundwater recharge would occur.	• Same as under Alternative 1.	• Less development with its associated potential to impact the $Qpog_1$ and $Qpog_2$ aquifers would occur than under Alternatives 1 and 2.
• Where mass grading of Planning Area B would lower the ground surface, the $Qpog_2$ aquifer could be exposed in the cut wall. Any groundwater seepages from the cut wall would be conveyed downslope. The $Qpog_2$ aquifer would not be susceptible to contamination, because only the discharge point of the aquifer would be exposed. No water users or springs are identified downgradient of Planning Area B; therefore, no significant impacts would be expected.	• Same as under Alternative 1.	• Same as under Alternatives 1 and 2.
• Development occurring on the valley floor portion of the site is unlikely to have any measurable impact on the alluvial aquifer water levels, because the valley floor is in a groundwater discharge zone.	• Same as under Alternative 1.	• Same as under Alternatives 1 and 2.

Alternative 1	Alternative 2	No Action Alternative
• A reduction in spring discharge could potentially occur to springs in the Johnson Creek basin due to upland development; however, the changes would likely be too small to measure because the uplands are located in a groundwater discharge zone. The influence of the alluvial aquifer on baseflows in the new Johnson Creek would offset any potential reduction in baseflow from $Qpog_{1,2}$ springs. Therefore, no probable significant impacts to baseflow would be anticipated.	• Same as under Alternative 1.	• No development is proposed in the Johnson Creek basin
• Overall, groundwater quality would improve onsite with proposed development, because agricultural uses, septic discharge, and untreated runoff from Frager Road draining to roadside ditches and ditched streams would cease.	• Same as under Alternative 1.	• Similar to Alternatives 1 and 2; however, agricultural influences on groundwater in the southern portion of the site would continue.
• There are no potable or non-potable well water users in the vicinity of the site that would be affected by proposed development. Therefore, no adverse impacts to beneficial uses of groundwater quality would be expected to occur.	• Same as under Alternative 1.	• Same as under Alternatives 1 and 2.
• Use of the site for emerging technologies could include shipping, storing and processing hazardous materials. Emerging technology use of hazardous materials is not expected to present a risk of exposure or accidental introduction to stormwater conveyance systems.	• Same as under Alternative 1.	• No emerging technology uses would be developed. However, some industrial uses could include shipping, storing and processing of hazardous materials.
Mitigation Measures		
Infrastructure Development		
• A temporary stormwater retention system would be installed during the first construction season per the requirements of the King County Surface Water Design Manual (SWDM; 1998) adopted by the City of Tukwila. No surface discharge of stormwater offsite is planned during the first construction season until the long-term construction stormwater polymer treatment system is completed and operating.	• Same as under Alternative 1.	• Treatment of sediment would likely use standard sediment trap ponds that would not work as reliably as the polymer treatment system under Alternatives 1 and 2.
• Monitoring and erosion control measures would be employed for stormwater discharge associated with construction activities per an	• Same as under Alternative 1.	• Same as under Alternatives 1 and 2.

Alternative 1	Alternative 2	No Action Alternative
National Pollutant Discharge Elimination System (NPDES) permit from the Department of Ecology (Ecology) to protect water quality.		
• If a concrete batch plant is employed onsite, monitoring and erosion control measures would be employed per a Sand and Gravel NPDES Permit from Ecology.	• Same as under Alternative 1.	• A concrete batch plant would not likely be required.
• The requirements of a Section 401 (Clean Water Act) Certification from Ecology would be followed to protect water quality.	• Same as under Alternative 1.	• Same as under Alternatives 1 and 2.
• A stormwater pollution prevention plan (SWPPP) would be prepared and implemented as required by the NPDES permit, and would be updated as warranted. The SWPPP would contain specific best management practices for each construction season.	• Same as under Alternative 1.	• Same as under Alternatives 1 and 2.
• Construction runoff sediment would be removed via a collection and polymer treatment system, including testing prior to discharge (see Appendix C for details).	• Same as under Alternative 1.	• Treatment of sediment would likely use standard sediment trap ponds that would not work as reliably as the polymer treatment system under Alternatives 1 and 2.
• Temporary erosion and sediment control (TESC) best management practices (BMPs), as specified in the King County (1998) and Ecology (2001) manuals, would be implemented. See Tables 3-2, 3-3 and 3-4 in Appendix C, Section 3.1, Earth, and Appendix A for specific TESC BMP measures.	• Same as under Alternative 1.	• Same as under Alternatives 1 and 2.
• A temporary dike adjacent to the Green River would be installed for construction of the off-channel habitat restoration area to prevent river water from entering the work area or construction water from directly entering the river.	• Same as under Alternative 1.	• The off-channel habitat restoration area would not be created.
• A sediment curtain would be placed around all work areas in the Green River when: breaching the dike at the end of the Green River Off-Channel Habitat Restoration Area; constructing the new Johnson Creek; installing the south basin stormwater outfalls; or abandoning the	• Same as under Alternative 1.	• The off-channel habitat restoration area would not be created, existing Johnson Ditch would not be realigned, and the south basin stormwater

Alternative 1	Alternative 2	No Action Alternative
existing Johnson Ditch outfall (if warranted by the specific work and river elevation).		control system would not be installed.
• Runoff from areas of recent uncovered concrete work would be managed by one or more of the methods described in Section 3.4.1 of Appendix C.	• Same as under Alternative 1.	• Same as under Alternatives 1 and 2.
• Concrete related equipment would be rinsed following the restrictions described in Section 3.4.1 of Appendix C.	• Same as under Alternative 1.	• Same as under Alternatives 1 and 2.
• If Portland cement or equivalent product is proposed for use as a soil amendment to meet compaction standards in a SWPPP under the NPDES permit for construction discharge, mitigation measures described in Section 3.4.1 of Appendix C would be followed.	• Same as under Alternative 1.	• Same as under Alternatives 1 and 2.
• If a batch concrete plant is used onsite one or more of the options described in Section 3.2, Water and Appendix C would be used to manage stormwater in contact with the batch plant.	• Same as under Alternative 1.	• A concrete batch plant would not likely be required.
• If recommended by the geotechnical engineer, perforated conduit would be installed at the cut areas at the toe of the western hillside for construction of the Southcenter Parkway extension to intercept and convey groundwater and stabilize wet, sloping soils.	• Same as under Alternative 1.	• Same as under Alternatives 1 and 2.
• The new Johnson Creek would be designed to be lower in elevation than the existing Johnson Ditch, and would intersect more of the alluvial aquifer during the summer low-flow period. The influence of the alluvial aquifer on increasing baseflows in the lower portion of new Johnson Creek would offset any potential reduction in baseflow from $Qpog_{1,2}$ springs.	• Same as under Alternative 1.	• Existing Johnson Ditch would not be realigned.
Full Buildout		
• Stormwater would be managed per the requirements of the King County SWDM (1998) adopted by the City of Tukwila. No treated stormwater discharge would be directed to wetlands or tributary	• Same as under Alternative 1.	• Same as under Alternatives 1 and 2.

Alternative 1	Alternative 2	No Action Alternative
drainages to the Green River (except emergency overflow to new Johnson Creek).		
• A wetland rehabilitation plan would be implemented to compensate for the fill of low-value wetlands. Under the plan, wetland water quality functions onsite would be increased slightly relative to existing conditions for sediment and nutrients (see Section 3.4, Wetlands, and Appendix F for further information).	• Same as under Alternative 1.	• A wetland rehabilitation plan would not be implemented.
• The new Johnson Creek mitigation plan would improve water quality by: enhancing and restoring riparian functions that would provide nutrients to the creek (via leaf litter and terrestrial insects); filtering and improving the quality of water passing through the buffer; and increasing shade (which would lower the water temperature and increase the dissolved oxygen content of the water conveyed through the creek to the Green River).	• Same as under Alternative 1.	• The new Johnson Creek mitigation plan would not be implemented.
• Baseflows and undeveloped area stormwater runoff currently conveyed in Streams C and E, and Ditch J-1 would be piped and protected from stormwater influence from the developed portions of the site. Conveyance of baseflows and undeveloped area stormwater in a pipe would maintain cool temperatures and increase the oxygen content of water transported to the Green River.	• Same as under Alternative 1.	• Stormwater control could be constructed on a lot-by-lot basis, or possibly on a more centralized basis.
• The removal of leaf litter and insect supply from filling Stream C, Ditch J-1 and portions of Stream E would be offset by improved riparian functions in the off-channel habitat restoration area at the Green River and by restoration of new Johnson Creek.	• Same as under Alternative 1.	• The off-channel habitat restoration area would not be created, and existing Johnson Ditch would not be realigned.
• The relocated flood protection barrier dike would separate the new Johnson Creek and wetland rehabilitation area from developed area stormwater runoff, while providing for continuation of the existing hydrology supporting new Johnson Creek and the wetland rehabilitation area.	• Same as under Alternative 1.	• The flood protection barrier dike would not be relocated and no development would occur south of the existing flood protection barrier dike.

Alternative 1	Alternative 2	No Action Alternative
• Design measures, including a pump for each pond, would be employed to ensure that the inflow pipes to the north and south wet ponds could be flushed free of accumulated sediment during maintenance work. Alternatively, the stormwater system design could be modified to prevent standing water from accumulating in inflow pipes.	• Same as under Alternative 1.	• Such pumps may or may not be necessary.
• To mitigate potential flooding on the site from suspension of discharges in accordance with the Green River Pump Operational Procedures Plan (POPP) requirements, an exemption would be sought from the King County Flood Control District to allow continued pumping from the south basin to the Green River.	• Same as under Alternative 1.	• No exemption would be needed.
• The POPP would require approximately 106 acre-feet of storage as flood mitigation. The Off-Channel Habitat Restoration Area would provide approximately 118 acre-feet of additional in river storage.	• Same as under Alternative 1.	• The POPP requirement for flood storage would be lower, because less of the site would be developed. There would be no off-channel habitat mitigation area, and flood storage would be accommodated across the site, rather than in one location.
• Open air grate manholes could be provided along stormwater discharge lines to enhance dissolved oxygen.	• Same as under Alternative 1.	• Same as under Alternatives 1 and 2.
• Waterfowl use of wet ponds could be discouraged by planting the pond fringes with shrubs rather than grasses (to the extent feasible and consistent with protection of pond berm integrity), to prevent them from increasing fecal coliforms in the ponds and their discharge.	• Same as under Alternative 1.	• Same as under Alternatives 1 and 2.
Significant Unavoidable Adverse Impacts		
• Occasional peaks of fecal coliforms are predicted to occur at the immediate points of stormwater discharge from the site at concentrations above standards, although their concentrations in any given storm are difficult to predict and would vary widely. It is recognized that stormwater BMPs are not well suited for the removal of fecal coliforms, because they all operate using saturated flow paths.	• Same as under Alternative 1.	• No residential uses would be developed with their associated increases in fecal coliform levels.

Alternative 1	Alternative 2	No Action Alternative
There are no alternative facility designs likely to improve treatment for fecal coliforms. Fecal coliforms would not be expected to adversely affect beneficial uses (i.e., fish and aquatic habitat downstream) or cause a measurable difference downstream of the site in the Green River.		
PLANTS AND ANIMALS **Significant Impacts**		
• Most of the clearing of the site would occur in the infrastructure development phase (minimal additional clearing would occur through buildout). At full buildout, open space areas, including restored, rehabilitated and retained wetlands and stream habitats, steep slopes, and other undeveloped open space, would encompass approximately 20 to 22 percent of the site. A majority of the remainder of the site would be converted to urban uses, including habitat associated with agricultural fields. Portions of the forested slopes would also be cleared for the S 178th Street realignment and to accommodate development. Newly landscaped area that would be provided within the developed areas of the site and stormwater control features would comprise from 3 to 5 percent of the site.	• Same as under Alternative 1.	• There would be no defined infrastructure development phase, and a comprehensive habitat mitigation plan would not be implemented (at full buildout, approximately 55 percent of the site would be developed, and approximately 45 percent of the site would represent agricultural area, open space [including undevelopable area] retained natural areas, and critical areas (e.g., wetlands, streams).
• Clearing and mass grading of the site would increase the degree of fragmentation of existing natural habitats, particularly at the southern end of the site.	• Same as under Alternative 1.	• There would be less clearing and mass grading, and less development in the southern portion of the site. Therefore, there would be less fragmentation of habitats.
• Clearing of areas to be developed in the future would increase the amount of edge habitat that borders urban development.	• Same as under Alternative 1.	• The increase in edge habitat would be smaller.
• Weedy or exotic invasive species and herbaceous plants adapted to disturbed conditions could become established, and some of these could further invade retained native communities. However, some of	• Same as under Alternative 1.	• There would be less potential for invasive species to further invade retained native communities;

Alternative 1	Alternative 2	No Action Alternative
these species are already present onsite.		however, existing degraded natural areas would not be restored.
• As part of the wetland rehabilitation plan, 32.43 acres of degraded pasture wetland onsite would be rehabilitated during the infrastructure development phase. This wetland rehabilitation is expected to enhance habitat value over time for many species, as compared with current conditions.	• Same as under Alternative 1.	• There would be no rehabilitation of wetlands or associated habitat enhancement.
• About 700 feet of the Green River levee would be moved to create approximately 7 acres of new off-channel habitat. Approximately 1,346 feet of existing Johnson Ditch would be filled and a similar amount of more naturalistic channel created to the south, increasing the creek's habitat value. Both actions would require work below the ordinary high water mark. .	• Same as under Alternative 1.	• No moving of the levee or filling of Johnson Ditch would occur.
• No endangered, threatened, or sensitive plant species are known or are likely to occur onsite. Consequently, the Proposed Actions would not adversely impact such species.	• Same as under Alternative 1.	• Same as under Alternatives 1 and 2.
• Elimination of some of the forested and shrubland habitat available for native wildlife onsite would reduce the local populations of most remaining native species, and cause a number of incremental changes in the species composition.	• Same as under Alternative 1.	• Elimination of existing habitat would be more limited and would occur over a longer period (there would be no initial infrastructure development phase), and fewer changes in species composition would occur; however, there would be no habitat enhancement and associated benefits to wildlife.
• Short-term impacts to wildlife would include disturbance associated with clearing, grading, and construction activities from infrastructure development. Animals that are least tolerant of human disturbance would typically be most affected by such construction.	• Same as under Alternative 1.	• Similar to Alternatives 1 and 2, but to a lesser degree.

Alternative 1	Alternative 2	No Action Alternative
• Wildlife movements among available habitats on and off site would be affected to some degree by the Proposed Actions. However, this movement is already affected by existing industrial uses and roads onsite.	• Same as under Alternative 1.	• Similar to Alternatives 1 and 2, but to a lesser degree.
• Populations of reptiles and amphibians, which rely on forest duff, downed logs, snags, and wetlands, would likely be somewhat reduced overall on site.	• Same as under Alternative 1.	• With retention of more existing habitat areas, reptiles and amphibian populations would be less affected.
• Infrastructure development would result in the loss of 19 percent of wetland habitat onsite (approximately 80 percent of the existing wetlands would be retained). However, many of these impacted wetlands are currently managed for corn production and have little or no habitat value for many native species	• Same as under Alternative 1.	• There would be no initial infrastructure development phase, and existing wetlands would be retained.
• The Federal Aviation Administration (FAA) establishes a hazard zone within 10,000 feet of public-use airports, in which land uses considered to have the potential to attract wildlife hazardous to air traffic (such large birds) are to be discouraged (see Figure 3 of Appendix D). No uses are proposed in this area that would attract such wildlife, with the possible exception of the south stormwater pond.	• Same as under Alternative 1.	• Existing agricultural fields in the southern portion of the site would continue to attract wildlife considered hazardous by the FAA.
• Infrastructure development would include a number of actions that would directly impact potential fish-bearing streams, including: filling of all or portions of five watercourses for the Southcenter Parkway improvement; the relocation of the flood protection barrier dike; stormwater ponds installation and mass grading operations; reconfiguring the Green River levee at the Off-Channel Habitat Restoration Area; installation of the new stormwater discharge culvert and outfall to the Green River; installation of the new Johnson Creek outfall to the Green River; installation of a temporary culvert within new Johnson Creek to allow construction of the relocated flood protection barrier dike; and, use of the temporary haul road from the Green River Off-Channel Habitat Restoration area under S 200th Street.	• Same as under Alternative 1.	• There would be no initial infrastructure development phase; construction impacts to aquatic habitat would be much less than under Alternatives 1 and 2. With the exception of Stream E, no other watercourses on the site would be impacted. With less in-water construction, the potential risk to fish would be less.

Alternative 1	Alternative 2	No Action Alternative
• A total of 7,127 linear feet (1.35 miles) of five watercourses onsite would be filled during the infrastructure development phase. All five of these watercourses are presumed to be fish-bearing, although habitat quality is generally very poor. It is possible that a low level of fish mortality could occur with filling.	• Same as under Alternative 1.	• 327 feet of Stream E, which is a presumed fish-bearing channelized watercourse, would be filled. None of the other watercourses on the site would be impacted. Certain onsite ditches and ditched streams would continue to be used for agricultural purposes.
• Minor and short-term discharge of fine sediments to the Green River would be expected to occur during infrastructure development, including: when the existing stream bank is removed from between the Green River Off-Channel Habitat Restoration Area and the Green River; during construction of the new Johnson Creek and stormwater outfalls through the Green River levee; and, if uncontrolled runoff enters Stream E or new Johnson Creek during the first year of infrastructure construction. With the proposed mitigation, no significant impacts to fish habitat would be expected.	• Same as under Alternative 1.	• With less in-water construction, the potential risk to fish would be less.
• Water quality components that are critical to fish habitat and most often affected by land development include water temperature, turbidity, toxic chemicals, metals, dissolved oxygen, nutrients, and pH. With the proposed mitigation measures, the risk that sub-standard water would be discharged to the Green River would be low. Therefore, no significant adverse construction-related water quality impacts to fish or fish habitat in that river would be expected.	• Same as under Alternative 1.	• Similar to under Alternatives 1 and 2. The potential for water quality impacts would be less; however, existing limited stormwater quality treatment would continue in the northeast portion of the site (Segale Business Park) and lack of water quality treatment would continue associated with the agricultural uses in the southern portion of the site.
• Infrastructure development and buildout would not be expected to result in adverse effects to Chinook or bull trout, Endangered Species Act (ESA) listed fish species, due to proposed water quality mitigation, the reasonable likelihood that proposed mitigation measures would adequately protect aquatic habitat, and absence of spawning habitat within, adjacent to, or downstream of the site.	• Same as under Alternative 1.	• There would be no initial infrastructure development phase and associated potential for impacts to fish; however, there would be no habitat restoration or associated benefits.

Alternative 1	Alternative 2	No Action Alternative
• During full buildout, parts of the development areas would likely be landscaped with ornamental species. Some ornamental species could invade native forests and spread to reduce understory diversity and threaten the health of overstory trees.	• Same as under Alternative 1.	• There would be less developed area and less opportunity for ornamental species to threaten native species.
• Development of onsite roadways and buildings during full buildout could further reduce movement of many species of wildlife.	• Same as under Alternative 1.	• There would be less development and less disturbance to wildlife movement.
• As building development occurs and is occupied, urban-adapted species would increase and could displace native species that are not adapted to urban areas.	• Same as under Alternative 1.	• Similar to under Alternatives 1 and 2, but to a lesser degree.
• At full buildout, ambient light and noise levels would increase over existing conditions. Given the existing urban nature of much of the site, potential impacts from increased light and noise levels on wildlife would be considered incremental and would not be expected to be significant.	• Same as under Alternative 1.	• Similar to under Alternatives 1 and 2, but to a lesser degree.
• The Green River Off-Channel Habitat area and new Johnson Creek habitat would be initiated during infrastructure development and become fully established during full buildout. As a result of these newly created habitat areas, there would be a substantial increase in higher quality resident and anadromous fish habitat onsite. Upstream fish passage from the Green River into new Johnson Creek would be improved.	• Same as under Alternative 1.	• The Green River Off-Channel Habitat area and new Johnson Creek habitat would not be constructed, and associated benefits to fisheries would not occur. Fish access to existing Johnson Ditch would continue to be limited by the flood gate at the Green River.
• Once buildings and roadways are completed and landscaping and other vegetative cover established, the risk of erosion would be similar to that under existing conditions. Therefore, no significant impacts related to fine sediment recruitment would be expected during full buildout.	• Same as under Alternative 1.	• Same as under Alternatives 1 and 2.
• Fish sensitivity to water quality changes was assessed by comparing forecast water quality results to desirable limits. The overall quality of stormwater discharged from the site is expected to increase under the	• Same as under Alternative 1.	• Similar to under Alternatives 1 and 2; however, improvement would be to a lesser degree.

Alternative 1	Alternative 2	No Action Alternative
Proposed Actions, as compared to existing conditions.		
• In general, development of the site during full buildout would not result in any significant adverse effects to groundwater quantity being delivered to fish-bearing waters.	• Same as under Alternative 1.	• Same as under Alternatives 1 and 2.
• Hydrologic modeling was conducted to calculate future instream flows under full buildout (see Appendix B for details on this modeling). No significant change in the summer base flow contribution from the site to the Green River would be expected to occur as a result of the proposed development, and no change to fish habitat quality would reasonably be anticipated. Changes to flows from the site during the winter would also be insignificant relative to flows in the Green River.	• Same as under Alternative 1.	• Similar to under Alternatives 1 and 2, changes would not be significant.
• Average water depth in the Green River would increase by about 0.05 ft (1/2 inch) and average water velocity would change by about 0.01 foot per second at buildout. These potential changes are considered small, particularly given the creation of off-channel habitat area in the Green River that would provide an area for fish to go to avoid high water velocities.	• Same as under Alternative 1.	• Similar to under Alternatives 1 and 2, changes would not be significant.
• The new Johnson Creek stream flows were evaluated for the peak storm flow range. Most predicted peak flow water velocities in the new Johnson Creek would be within the range where most fish could readily move through such flows; fish would find and position themselves in refuge habitats where velocities are lower. Velocities would vary within the channel to provide this refuge habitat.	• Same as under Alternative 1.	• Similar to under Alternatives 1 and 2; however, there would be limited development in the southern portion of the site, no realignment of existing Johnson Ditch, and no associated impacts to fisheries resources.
• An erosion and sedimentation analysis was conducted for surface water drainages potentially affected by proposed development. With implementation of the proposed temporary erosion and sediment control Best Management Practices (TESC BMPs), significant erosion hazard impacts with development would not be expected.	• Same as under Alternative 1.	• Same as under Alternatives 1 and 2.
• New Johnson Creek would have higher peak storm flows; the specific design of the new channel would take this into account to prevent	• Same as under Alternative 1.	• Existing Johnson Ditch would not be realigned. Flows would be similar to

Alternative 1	Alternative 2	No Action Alternative
erosion and its impacts on fish. Therefore, no adverse impacts to sediment transport or stream erosion would be anticipated during full buildout.		under existing conditions, and adverse sediment transport or stream erosion impacts would not be anticipated.
• Infrastructure development and buildout are not expected to have significant adverse impact on other ESA-listed species, such as bald eagle, which has been observed occasionally over the site. No nests, winter concentration areas or night roosts are known to occur on site, and most of the site lacks suitable habitat for eagles. Most of the habitat features that could be used by eagles (tall trees for perching or roosting) would be retained. Site development would result in some loss of habitat for wintering waterfowl that may serve as prey for eagles, but potential foraging areas associated with the Green River would not be adversely affected. Moreover, with proposed mitigation associated with Johnson Creek realignment and the Green River Off-channel Habitat area, overall on-site habitat conditions for fish, which are preyed upon by eagles, are expected to improve.	• Same as under Alternative 1.	• No significant adverse impact on ESA-listed species would be expected. Less existing habitat would be eliminated; however, on-site habitat conditions for fish would not improve.
• Similarly, although a peregrine falcon has been observed flying over the site, no nests are found or known to occur, and potential foraging habitat is limited. Consequently, no adverse impacts to peregrine falcons are expected from development of the site.	• Same as under Alternative 1.	• Same as above under the No Action Alternative.
• With improvements in habitat quality and enhanced access through the Green River flood control levee, it is expected that fish use of the area would increase. With more fish using the site, the number of fish that could potentially become stranded would increase. With proposed mitigation, it is expected that stranding risk would be kept to a minimum and be no greater than under historic conditions.	• Same as under Alternative 1.	• Improvements in habitat quality would be limited, and enhanced access through the Green River flood control levee would not occur. Therefore, fish use of the site would not likely increase.
Mitigation Measures		
• The majority (approximately 80 percent) of the onsite wetland areas and their buffers, together with the natural streams and most of the steep slopes, would generally be protected. The retained wetlands,	• Same as under Alternative 1.	• All wetlands would be retained onsite (some fill of Stream E would be required).

Alternative 1	Alternative 2	No Action Alternative
wetland buffer areas, and steep slopes would provide a base level and configuration of native habitat for wildlife on site.		
• The areas of native habitat within the retained open space areas on site (primarily the hillside) would include existing habitat elements, such as snags, defective live trees and logs, which could be used by a variety of wildlife.	• Same as under Alternative 1.	• More of the site would be retained in its existing condition.
• Compensatory mitigation for impacts to wetlands and watercourses would be implemented in accordance with the City of Tukwila (as well as State and Federal) permitting requirements. A comprehensive Sensitive Area Master Plan would be implemented in the infrastructure development phase (see Appendix L for details). The plan was developed in accordance with the Sensitive Area Master Plan provisions of the City of Tukwila's Sensitive Areas Ordinance (Tukwila Municipal Code [TMC] 18.45.160). Implementation of the plan is intended to compensate for impacts to watercourses and wetlands, and is intended to yield substantial net benefits to the environment that would not be realized under the standard provisions of the Sensitive Areas Ordinance. The primary features of the habitat mitigation plan are: - Rehabilitation of a wetland complex associated with tributary drainage to the Green River that was historically present, but is now absent in the basin. See Section 3.4, Wetlands and Appendix F for further discussion. - Creation of off-channel fisheries habitat in the Green River (see Figures 3.3-2, 3.3-3 and 3.3-4). - Implementation of a stream mitigation plan, including restoration of existing Johnson Ditch into a fish-friendly tributary (new Johnson Creek; see Figures 3.3-5 and 3.3-6) connected to the Green River.	• Same as under Alternative 1.	• Compensatory mitigation would occur for impacts to Stream E, which would be considered wetland fill for regulating purposes; no other impacts to regulated wetlands would occur. There would be no wetland rehabilitation, realignment of existing Johnson Ditch, or creation of off-channel fisheries habitat.
• The proposed habitat enhancement projects (i.e., the Green River Off-Channel Habitat Restoration Area and new Johnson Creek stream	• Same as under Alternative 1.	• The habitat enhancement projects would not occur.

Alternative 1	Alternative 2	No Action Alternative
channel) would compensate for impacts to the existing ditches and ditched streams on a more than 4:1 ratio (by area).		
• All areas that are to remain undisturbed during site clearing and grading (e.g., sensitive areas and their buffers) would be delineated and fenced with highly visible material prior to construction.	• Same as under Alternative 1.	• Same as under Alternatives 1 and 2.
• All construction at or below the ordinary high water mark (OHWM) of the Green River would take place in August.	• Same as under Alternative 1.	• Less construction and associated truck traffic adjacent to the Green River. Screening may or may not be provided.
• No surface water runoff from construction areas would be discharged directly to onsite or offsite waterbodies without first being treated (see Section 3.2, Water Resources, and Appendix C for details).	• Same as under Alternative 1.	• Same as under Alternatives 1 and 2.
• Fish removal and hydraulic isolation measures would be implemented prior to filling of waterbodies. Other measures as required by agency permits, including Hydraulic Project Approval (Washington State Department of Fish and Wildlife) and Section 404 (Army Corps) permits, would be implemented.	• Same as under Alternative 1.	• Similar to under Alternatives 1 and 2; however, the only waterbody filled would be a portion of Stream E.
• Monitoring of the Chinook population in the Green River would be conducted to ensure that proposed activities on the river bank do not prevent upstream migration. Should a large contingent of fish be observed waiting downstream of the site, construction would be temporarily halted to allow fish the opportunity to swim past with less disturbance.	• Same as under Alternative 1.	• No construction is anticipated at or below the OHWM of the Green River or on the Green River bank.
• The Green River would be screened from noise and visual disturbances related to construction truck traffic to reduce the potential for impacts to aquatic resources.	• Same as under Alternative 1.	• No construction is anticipated at or below the OHWM of the Green River or on the Green River bank.
• Where Stream E remains as a surface feature, the area between the channel and Southcenter Parkway would be planted where practicable with native tree and shrub species and allowed to naturalize. The area	• Same as under Alternative 1.	• Mitigation for alteration of Stream E would likely include realignment and enhancement of the 327-foot portion

Alternative 1	Alternative 2	No Action Alternative
west of the channel would remain untouched as native forest.		that would be filled. A riparian buffer along both sides of the channel would likely be set aside and planted as required under the City of Tukwila Sensitive Areas Ordinance.
• Final design and construction monitoring would include measures to ensure that "attractive nuisances" to salmonids, such as isolated ponding areas where fish might become stranded, are not intentionally created.	• Same as under Alternative 1.	• No Green River Off-Channel Habitat Restoration area, or associated potential for fish stranding, would be created.
• Post-construction monitoring would include an assessment of potential stranding hazard locations that might develop over time and observations of any stranded fish or carcasses.	• Same as under Alternative 1.	• Same as above under No Action.
• Additional mitigation measures described in Sections 3.1, Earth, and 3.2, Water Resources, and Appendices A and C would be implemented to protect water quality, water quantity, stream channel stability, riparian buffers, and wetland conditions during construction.	• Same as under Alternative 1.	• Additional mitigation measures would be implemented as warranted for portions of the site that would be developed.
• Landscaping could include native plant species, where feasible, especially trees and shrubs that provide groundcover for nesting birds, cover for small mammals, and feeding sites to help increase habitat values of otherwise altered landscapes.	• Same as under Alternative 1.	• Same as under Alternatives 1 and 2 for developed areas of the site.
• The use of exotic ornamental species could be discouraged.	• Same as under Alternative 1.	• Same as under Alternatives 1 and 2 for developed areas of the site.
• Landscape irrigation design concepts could encourage the use of water-conservation, low-volume irrigation.	• Same as under Alternative 1.	• Same as under Alternatives 1 and 2 for developed areas of the site.
Significant Unavoidable Adverse Impacts		
Development of the site would result in the following unavoidable adverse impacts: • Loss of the portions of the existing remaining native vegetation and soils and replacement with developed areas that would include	• Same as under Alternative 1.	• Similar to under Alternatives 1 and 2 but to a lesser degree.

Alternative 1	Alternative 2	No Action Alternative
impervious surfaces, and fragmentation of retained native vegetation communities among the developed areas onsite;		
• Reduction in the local populations of most native wildlife species on site over time, and continued incremental shift in species composition to favor species more adapted to urban areas; some wildlife species could be eliminated from the site; those animals displaced from the site to adjacent off-site habitats would likely perish.	• Same as under Alternative 1.	• Similar to under Alternatives 1 and 2 but to a lesser degree.
• Increase in disturbance of the patches of native forest habitat retained onsite as a result of increased human activity; and	• Same as under Alternative 1.	• Similar to under Alternatives 1 and 2 but to a lesser degree.
• Filling of 7,127 feet (1.07 acres) of stream channel, much of which is potentially fish-bearing; however, all affected stream channels are manmade agricultural ditches and habitat is poor to non-existent. The proposed fill would not be considered a significant adverse impact with implementation of the proposed mitigation plan, including the two major habitat enhancement projects: the Green River Off-Channel Habitat Restoration Area and the new Johnson Creek stream channel. Development would not be expected to result in significant unavoidable impacts to fisheries resources.	• Same as under Alternative 1.	• 327 feet of Stream E would be filled. The Green River Off-Channel Habitat Restoration Area and the new Johnson Creek stream channel would not be constructed.
WETLANDS **Significant Impacts**		
• A total of 9.45 acres of wetlands would be filled, out of a total of 48.68 acres of existing wetland area onsite. The majority of the wetlands to be filled are currently in mowed corn fields.	• Same as under Alternative 1.	• No direct alterations to wetlands would be assumed. Fill of 327 linear feet of Stream E, which would be considered wetland fill for regulating purposes, is assumed.
• Road construction of the expanded Southcenter Parkway would result in fill of a portion of Wetland 1 (0.26 acres).	• Same as under Alternative 1.	• Road construction of Southcenter Parkway in the alignment assumed under the No Action Alternative would require fill of 327 linear feet of Stream E.

Alternative 1	Alternative 2	No Action Alternative
• Construction of the relocated flood protection barrier dike and stormwater facilities in the southern portion of the site would require filling of Wetlands 8, 9, as well as a portion of Wetland 10 (approximately 5.1 acres). Clearing and grading of the site to establish suitable site grades would result in direct impacts to thirteen (13) wetlands on site. Clearing and grading would fill all of Wetlands 2, 3, 3a, 4a, 5, 6, 7, 13 and 16, for an overall total of just over 4 acres.	• Same as under Alternative 1.	• The flood protection barrier dike would not be relocated, and there would be no direct impacts to onsite wetlands.
• Dewatering for the south stormwater ponds (temporary and permanent), the new Johnson Creek corridor, and Green River Off-Channel Habitat Restoration Area could temporarily lower the water table in the vicinity of Wetlands 10 and 11 onsite. This temporary lowering of the water table would not be expected to result in a significant adverse impact, because the water table is expected to return to its pre-development condition after dewatering operations cease.	• Same as under Alternative 1.	• The flood protection barrier dike would not be relocated, existing Johnson Ditch would not be realigned, the southern stormwater pond would not be constructed, and there would be no associated dewatering or dewatering impacts.
• Without appropriate erosion and sediment controls, wetlands downslope or downstream of construction could be affected during infrastructure development.	• Same as under Alternative 1.	• Similar to under Alternatives 1 and 2; however, there would be no initial infrastructure development phase and with less area of the site to be developed, the potential for impacts to wetlands would be less.
• The proposed development would result in a net decrease in total wetland habitat onsite. The majority of the habitat loss (7.53 acres of agricultural wetlands) would reduce available forage habitat for winter waterfowl; however, much of this wetland area currently has little habitat value and is within the Federal Aviation Administration (FAA) hazard zone around Seattle-Tacoma International Airport, in which land uses with the potential to attract wildlife hazardous to air traffic (such as large birds) are discouraged.	• Same as under Alternative 1.	• There would be no loss of wetland habitat or associated decrease in attraction of wildlife that are potentially hazardous to air traffic.
• No additional direct impacts to wetlands would be anticipated during full buildout. Indirect impacts, as described above for infrastructure development (from erosion), could also occur during full buildout.	• Same as under Alternative 1.	• Same as under Alternatives 1 and 2.

Alternative 1	Alternative 2	No Action Alternative
• Increased runoff from impervious surfaces has the potential to increase water level fluctuations within wetlands, as well as reduce infiltration and groundwater recharge. Changes to existing surface and subsurface flows also could affect hydrology within the wetlands. Most of the retained wetlands on site are located upgradient of the proposed development areas, south of the new flood barrier dike, or on the forested hillside; therefore, the increase in impervious surfaces below the water catchment area of the wetlands would not impact the retained wetlands. One retained wetland, located downstream of the proposed development area (most of Wetland 10), receives the majority of its hydrologic inputs from portions of the site that are not proposed for development. Therefore, it is anticipated that the retained Wetland 10 would not be significantly affected by proposed development.	• Same as under Alternative 1.	• Similar to under Alternatives 1 and 2; however, there would be less impervious surface area on the site.
• Runoff from onsite roads and parking areas could increase the contaminant loading to retained wetlands, potentially overcoming their ability to filter out contaminants without required and proposed water quality treatment mitigation.	• Same as under Alternative 1.	• Similar to under Alternatives 1 and 2; however, there would be less traffic and potential to generate pollutants.
Mitigation Measures		
• Proposed development would occur under the guidelines of the proposed Sensitive Area Master Plan for the site, prepared in accordance with Sensitive Area Master Plan guidelines set forth in Tukwila Municipal Code (TMC) 18.45.160 (see Appendix L for the plan and Chapter 2 for a brief summary of the plan).	• Same as under Alternative 1.	• There would be no Sensitive Area Master Plan for the site. Proposed development would be in accordance with the standard provisions of the Tukwila Sensitive Areas Ordinance (TMC 18.45).
• The proposed Tukwila South project would incorporate a number of features that would minimize or limit impacts to the wetlands and their buffers (see Section 3.13, Wetlands, and Appendix F for details).	• Same as under Alternative 1.	• There would be no direct alteration of wetlands.
• The conceptual wetland mitigation plan proposed to compensate for wetland impacts resulting from the Tukwila South project would rehabilitate, create and enhance 32.43 acres of functionally significant	• Same as under Alternative 1.	• There would be no conceptual wetland mitigation plan.

Alternative 1	Alternative 2	No Action Alternative
wetlands on the site. The proposed mitigation acreage would exceed the amount required by City of Tukwila regulations (3:1 ratio or 28.35 acres would be required), see Section 3.13, Wetlands, and Appendix F for details on the conceptual mitigation plan).		
• Existing Johnson Ditch would be realigned and placed into a new channel along the south side of the proposed relocated flood barrier dike, creating some new wetland habitat (approximately 1.5 acres).	• Same as under Alternative 1.	• Existing Johnson Ditch would not be realigned, and no new wetland habitat would be created.
• Some new wetland habitat (approximately 1.45 acres) would be created in conjunction with the Green River Off Channel Habitat Restoration Area (see Section 3.3, Plants and Animals, and Appendix E for detail).	• Same as under Alternative 1.	• The off-channel restoration area would not be created and no new wetland habitat would be created.
Significant Unavoidable Adverse Impacts		
• Proposed development of the Tukwila South site would result in the fill and loss of 9.45 acres of wetland habitat. The loss of this wetland area could reduce the overall wildlife use in the area, as well as reduce the available habitat in the region. The proposed compensatory mitigation would result in an overall increase in wetland functions in the project area. However, the project would result in a net loss of wetland area in the region.	• Same as under Alternative 1.	• There would be no loss of wetland habitat onsite. A portion of Stream E would be filled, and compensatory mitigation would occur (this would be considered wetland fill for regulating purposes). However, there would be no overall increase in wetland functions in the project area.
HAZARDOUS MATERIALS		
Significant Impacts		
• A construction contingency plan will be developed to govern the handling of potentially contaminated soil and/or groundwater during construction/grading activities, as part of the Cleanup Action Plan for the former sand and gravel borrow pit on site.	• Same as under Alternative 1.	• Same as under Alternatives 1 and 2.
• In the event that contaminated material is encountered in any other area of the site, contamination would be analyzed and remediated in	• Same as under Alternative 1.	• Same as under Alternatives 1 and 2.

Alternative 1	Alternative 2	No Action Alternative
accordance with state and/or federal regulations.		
• Construction of the Southcenter Parkway extension would require the removal of two underground storage tanks (USTs) used for storing gas and diesel fuels.	• Same as under Alternative 1.	• Same as under Alternatives 1 and 2.
• In the event that other underground storage tanks are discovered, removal and possible cleanup (as necessary) would be required.	• Same as under Alternative 1.	• Same as under Alternatives 1 and 2.
• Demolition of existing structures on site (residences and the existing Segale Business Park) could result in discovery of asbestos-containing materials or lead from paint or plumbing fixtures requiring removal and disposal.	• Same as under Alternative 1.	• Similar to under Alternatives 1 and 2; however, fewer structures would be demolished (it is assumed that the Segale Business Park would not be redeveloped).
• Future research and office uses could include emerging technology uses that could involve the shipping, storage and/or processing of certain hazardous materials, as part of their normal operations, and could produce some hazardous and biological wastes.	• Same as under Alternative 1.	• Emerging technology uses would not likely be developed on the site, and hazardous materials associated with these industries would not be used on the site.
Mitigation Measures		
• The proposed Cleanup Action Plan for the former sand and gravel borrow pit is being conducted as an independent remedial action under Ecology's Voluntary Cleanup Program (VCP), in accordance with the Model Toxics Control Act Cleanup Regulation (Chapter 173-340), based on the application of MTCA Method A cleanup levels (for unrestricted land uses) and the implementation of a detailed Cleanup Action Plan to be approved by Ecology.	• Same as under Alternative 1.	• Same as under Alternatives 1 and 2.
• Removal of underground storage tanks would be performed in compliance with state regulations (WAC 173-360-385). If any other areas of contaminated soil or groundwater are detected during infrastructure construction and/or long-term buildout, investigation and cleanup (if necessary) would be conducted consistent with state	• Same as under Alternative 1.	• Same as under Alternatives 1 and 2.

Alternative 1	Alternative 2	No Action Alternative
MTCA regulations. **Significant Unavoidable Adverse Impacts**		
• No significant unavoidable adverse impacts would be anticipated.	• Same as under Alternative 1.	• Same as under Alternatives 1 and 2.
LAND AND SHORELINE USE **Significant Impacts**		
• Land use changes to the site during the infrastructure development phase would include: improvement of Southcenter Parkway in a new alignment; realignment of S 178th Street; installation of major water, sewer and stormwater utilities; relocation of an existing flood protection barrier dike to the south; a mass grading program; and, implementation of a comprehensive Sensitive Area Master Plan.	• Same as under Alternative 1.	• The major infrastructure development phase at the outset of the project would not occur. However, the improvement of Southcenter Parkway in a different alignment is assumed. Realignment of S 178th Street would not occur; the flood protection barrier dike would not be relocated.
• During infrastructure development, existing land uses (all located on land owned or controlled by the applicant) would be demolished, including: a llama farm; eleven residences; the Southcenter Golf driving range and clubhouse.	• Same as under Alternative 1.	• Existing land uses onsite would be demolished over time, depending on the specific location of future development projects.
• Existing land uses within the Tukwila South area not owned by the applicant, could experience access disruption during the infrastructure development phase.	• Same as under Alternative 1.	• The infrastructure development phase would not occur; access disruptions could occur in the future, but would be more limited than under Alternatives 1 and 2.
• The Proposed Actions would result in the gradual conversion of the existing low-density industrial/warehouse and agricultural uses onsite to a broader mix of urban, higher-density uses, over the buildout period. The proposed project would implement provisions of the City's Comprehensive Plan.	• Same as under Alternative 1.	• Less of the site would be converted to new uses. The site would develop consistent with the more traditional pattern of light industrial, warehouse and big-box retail land uses that exist in the area, and would not fully

Alternative 1	Alternative 2	No Action Alternative
		achieve the City's vision for the area.
• At full buildout, approximately 75 to 80 percent of the site would be developed, and approximately 20 to 25 percent of the site would be preserved as open space and retained natural areas and sensitive areas (e.g., wetlands, streams), landscaped area within the developed portions of the site, and stormwater control features.	• Same as under Alternative 1.	• At full buildout, approximately 55 percent of the site would be developed, and approximately 45 percent of the site would remain as agricultural area and open space, retained natural areas, and sensitive areas.
• At full buildout, all existing land uses onsite, including the Segale Business Park, are assumed to be demolished, redeveloped, or renovated.	• Same as under Alternative 1.	• The existing Segale Business Park is assumed to remain.
• Transition of the Tukwila South area over time from low-density and undeveloped land use to an urban level and scale of development would represent a continuation of the existing pattern of urban development that is occurring on a regional and local scale.	• Same as under Alternative 1.	• The site would develop consistent with the more traditional pattern of light industrial, warehouse and big-box retail land uses.
• Natural geographic and infrastructure features (i.e., the Green River and I-5) serve to buffer the site from adjacent industrial/business park land uses on the east and residential uses west of I-5, and no significant impacts to land use compatibility with these areas would be anticipated.	• Same as under Alternative 1.	• Same as under Alternatives 1 and 2.
• Low density residential uses located between Orillia Road and I-5 could experience pressure for conversion to more intensive land uses in the future.	• Same as under Alternative 1.	• Uses located between Orillia Road and I-5 would not likely experience pressure for conversion.
• As a result of the realignment of S 178th Street to the south, certain businesses located at or near the intersection of Southcenter Parkway/S 180th Street may be affected by a temporary reduction in vehicle traffic. However, most vehicles traveling east and west on S 180th Street would likely still use the Southcenter Parkway/S 180th Street intersection. Over time, there would be a substantial increase in traffic volumes due to development at the site and general growth in	• Same as under Alternative 1.	• The realignment of S 178th Street would not occur, and associated temporary impacts to traffic and businesses in the S 180th Street vicinity would not be expected.

Alternative 1	Alternative 2	No Action Alternative
the area, which could increase business activity in the area.		
• A full buildout, activity levels and patterns from the additional employees and population on the site would increase substantially over existing conditions.	• Same as under Alternative 1.	• Increases in activity levels on the site would be considerably lower than under Alternatives 1 and 2.
• It is likely that increases in activity levels at the Tukwila Urban Center and other nearby centers would result; however, it is also likely that some retail uses within the site would draw retail patronage from similar uses in the area.	• Same as under Alternative 1.	• There would be less potential for deflection of demand for retail and office uses from existing area urban centers than under Alternatives 1 and 2.
• Assumed land uses would contribute to cumulative employment and population growth and intensification of land uses in the Tukwila area; however, substantial spin-off development, or the need for substantial additional support uses offsite, would not be expected.	• Same as under Alternative 1.	• There would be considerably less potential to contribute to cumulative employment and population growth and spin-off development than under Alternatives 1 and 2.
• Over the buildout period, development of the site in higher-intensity urban uses could generate pressure for Comprehensive Plan map and zoning re-designations to allow higher densities in areas adjacent to the site and the City's current Potential Annexation Area (PAA). It is likely that the scale of development assumed at the site would serve to limit the degree of such pressure as a substantial amount of developable property onsite for a variety of uses would be available over the long-term.	• Same as under Alternative 1.	• There would likely be less pressure for Comprehensive Plan map and zoning re-designations in areas adjacent to and the City's current PAA than under Alternatives 1 and 2.
Mitigation Measures		
• Measures to maintain reasonable access to properties not owned or controlled by the applicant would reduce or prevent access-related land use impacts associated with the infrastructure development phase of the project.	• Same as under Alternative 1.	• There would be no infrastructure development phase and less associated need for preventing access-related land use impacts.
• Long-term development at the Tukwila South site would be guided by the Tukwila Comprehensive Plan, the Tukwila South Master Plan and	• Same as under Alternative 1.	• Development would include light industrial, warehouse and retail uses

Alternative 1	Alternative 2	No Action Alternative
the Development Agreement, in conjunction with other applicable development standards, as implemented through individual development project review by the City of Tukwila. The City of Tukwila would continue to monitor the effectiveness of its Comprehensive Plan goals and policies for the Tukwila South area through Comprehensive Plan updates and reviews, as would surrounding jurisdictions.		and would also be subject to applicable provisions of the Comprehensive Plan.
• To the extent that noise, light/glare, traffic and other environmental impacts affect land uses on nearby properties, mitigation measures related to these elements of the environment would reduce land use impacts. Appropriate mitigation measures are identified under the respective sections of this Draft EIS.	• Same as under Alternative 1.	• Same as under Alternatives 1 and 2.
• Measures to discourage or prevent 178th/180 corridor through-traffic from diverting through the existing Segale Business Park would mitigate potential land use impacts related to loss of pass-by traffic for properties on S 180th Street just east of Southcenter Parkway. At such time as the Segale Business Park may be redeveloped in the future, through-traffic movement and potential land use impacts would be reevaluated.	• Same as under Alternative 1.	• The realignment of S 178th Street would not occur, and such measures would not be required.
Significant Unavoidable Adverse Impacts		
• No significant unavoidable adverse impacts to land use patterns would result.	• Same as under Alternative 1.	• Same as under Alternatives 1 and 2.
SOCIOECONOMICS **Significant Impacts**		
• At full buildout, it is assumed that approximately 1,900 multifamily housing units would be added to the site.	• At full buildout, approximately 700 multifamily housing units would be added to the site.	• There would be no new residential development onsite.
• At full buildout, population capacity would be approximately 4,085 permanent residents, based on an average person per household	• At full buildout population capacity would be approximately 1,505	• There would be no population capacity added to the site.

Alternative 1	Alternative 2	No Action Alternative
ratio of 2.15 for multifamily units.	permanent residents.	
• At full buildout, new direct employment would total 28,685 jobs. An additional 39,000 indirect and induced jobs would be created.	• At full buildout, new direct employment would total 22,427 jobs. An additional 30,700 indirect and induced jobs would be created.	• At full buildout, new direct employment would total approximately 2,150 jobs. An additional 2,500 indirect and induced jobs would be created.
• New development would significantly expand the existing employment base of the site, providing new employment opportunities for the area.	• Similar to under Alternative 1, but to a somewhat lesser degree.	• New development would not alter the current employment base.
Mitigation Measures		
• None required.	• Same as under Alternative 1.	• Same as under Alternatives 1 and 2.
Significant Unavoidable Adverse Impacts		
• No significant unavoidable adverse impacts to socioeconomic conditions would occur as a result, as analyzed.	• Same as under Alternative 1.	• Same as under Alternatives 1 and 2.
PARKS AND RECREATION		
Significant Impacts		
• The onsite segment of a pathway located between S 200th Street and S 204th Street, along the west bank of the Green River, would be eliminated; this may or may not be permanent.	• Same as under Alternative 1.	• The pathway would not likely be eliminated.
• The golf driving range in the northwest portion of the site would be eliminated.	• Same as under Alternative 1.	• The driving range would likely be eliminated for future industrial/retail development.
• At full buildout, approximately 20 to 25 percent of the site is assumed to be retained as open space, including preservation of sensitive areas, creation of new habitat areas, and landscaped open space within the developed portions of the site. A coordinated approach to	• Same as under Alternative 1.	• A coordinated approach to the provision of open space would not likely be provided.

Alternative 1	Alternative 2	No Action Alternative
open space on site is proposed as part of the Master Plan.		
• Pedestrian/bicycle pathways associated with campus-style development of the site could create connectivity between uses onsite.	• Same as under Alternative 1.	• A coordinated approach to pedestrian/bicycle connections on the site would not likely be provided.
• Park and recreational resources within 1 to 3 miles that are easily accessible from the site would likely experience the greatest demand from area employees and residents at the site.	• Similar to under Alternative 1, but to a lesser degree.	• There would be substantially less demand on nearby park and recreational resources than under Alternatives 1 and 2.
• Demand on athletic fields, soccer facilities, and the Tukwila Pool would also likely increase.	• Similar to under Alternative 1, but to a lesser degree.	• There would be substantially less demand on athletic facilities within the area, than under Alternatives 1 and 2.
• Based on the existing City of Tukwila level of service for neighborhood parks, open space and trails within the City, onsite residential uses would generate demand for approximately 14.7 acres of parks and open space and 2.4 miles of trails.	• Residential uses would generate demand for approximately 5.42 acres of parks and open space and 0.9 mile of trail.	• No residential uses would be added and, therefore, no associated demand for parks and recreational facilities would result.
• Employment uses on the site would likely result in some additional demand on nearby park and recreation resources.	• Similar to under Alternative 1, but to a lesser degree.	• Employee population could generate some limited demand on local parks and recreational facilities.
Mitigation Measures		
• Potential increases in demand would be mitigated, in part, through provision of a range of onsite facilities. These could include a combination of landscaped and hardscaped areas, which could provide a mix of recreational opportunities, including public gathering spaces, view opportunities, public shoreline access and a network of pathways for pedestrians and bicycles. Other types of recreational opportunities could be provided in the onsite multifamily residential developments (e.g., health/fitness center).	• Same as under Alternative 1.	• Demand would be considerably lower than under Alternatives 1 or 2, and onsite recreation spaces may or may not be provided.

Alternative 1	Alternative 2	No Action Alternative
• Under the proposed Master Plan, a total of approximately 99 acres of open space would be retained in undeveloped portions of the site. Additional landscaped open space would be provided in the developed portions of the site.	• Same as under Alternative 1.	• The southern portion of the site would not be developed, and would remain in agricultural use. Other open space would likely be preserved (including the western hillside) or provided within developed areas of the site.
• Standards for dedication and/or improvement of trails, parks and open spaces could be included in the Development Agreement.	• Same as under Alternative 1.	• A coordinated approach to dedication and/or improvement of trails, parks and open spaces would not likely be provided.
• The specific provision of onsite recreational facilities would be determined as part of the site plan review process for individual development projects. This would include the layout of the pedestrian/bicycle trail network, the amount and configuration of open space within the developed portions of the site and the provision of any active park or recreation facilities.	• Same as under Alternative 1.	• Coordinated site plan review for future light industrial, warehouse and retail uses on the site would not likely occur.
Significant Unavoidable Adverse Impacts		
• With implementation of mitigation measures, no significant unavoidable adverse impacts to park and recreation facilities would be expected to result.	• Same as under Alternative 1.	• Same as under Alternatives 1 and 2.
CULTURAL AND HISTORIC RESOURCES		
Significant Impacts	•	
• There is a possibility that archaeological materials may be inadvertently encountered during construction; however, based on site studies the possibility is small.	• Same as under Alternative 1.	• The possibility that archaeological materials may be inadvertently encountered would be considerably lower than under Alternatives 1 or 2 due to less development on the site.

Alternative 1	Alternative 2	No Action Alternative
• The National Register of Historic Places-eligible Mess House onsite would be demolished during infrastructure construction; however, the house could be moved if an interested party is found.	• Same as under Alternative 1.	• Same as under Alternatives 1 and 2.
Mitigation Measures		
• As required by Section 106 of the National Historic Preservation Act, consultation with the Muckleshoot Tribal Historic Preservation Officer (THPO) and the Washington State Historic Preservation Officer (SHPO) would occur as part of the Corps of Engineers 404 permit process, regarding the results of the archaeological and historical resources study and the protocol for discovery of any materials during the construction phase.	• Same as under Alternative 1.	• Same as under Alternatives 1 and 2.
• If buried archaeological materials are discovered during construction, work at the specific location of the discovery would be suspended until the materials are inspected by a professional archaeologist.	• Same as under Alternative 1.	• Same as under Alternatives 1 and 2.
• In the event of the discovery of human remains on the site, all work at the specific location would stop and the Washington State Historic Preservation Office, the King County Sheriff, and the Muckleshoot Indian Tribe would be notified.	• Same as under Alternative 1.	• Same as under Alternatives 1 and 2.
• Prior to demolition, the National Register-eligible Mess house would be advertised in a local publication for potential relocation by an interested party.	• Same as under Alternative 1.	• Same as under Alternatives 1 and 2.
• If the National Register-eligible Mess house is not purchased and relocated, recordation of the house could be completed in the form of Historic American Buildings Survey/Historic American Engineering Record (HABS/HAER) documentation, which follows National Park Service (NPS) regulations. Copies of the documentation could be provided to local repositories including historical societies and libraries.	• Same as under Alternative 1.	• Same as under Alternatives 1 and 2.

Alternative 1	Alternative 2	No Action Alternative
• An interpretive sign could be located at the site of the National Register-eligible Mess House.	• Same as under Alternative 1.	• Same as under Alternatives 1 and 2.
Significant Unavoidable Adverse Impacts		
• Implementation of the Proposed Actions would result in demolition or relocation of one structure eligible for listing in the National Register of Historic Places.	• Same as under Alternative 1.	• Same as under Alternatives 1 and 2.
AESTHETICS/LIGHT AND GLARE		
Significant Impacts		
Infrastructure Development		
• During the infrastructure phase, the aesthetic character of the site would be typical of a site under construction. Agricultural fields would be eliminated, though buildings, onsite roads and landscaping would not yet be established. These aesthetic conditions would be interim. Prior to building development, graded areas would appear as low-scale, planted areas.	• Same as under Alternative 1.	• There would be no initial infrastructure development phase and associated changes.
• The proposed Green River Off-Channel Habitat Restoration Area, new Johnson Creek stream channel, and wetland rehabilitation could be perceived as improving the aesthetic conditions at their specific locations by restoring and enhancing the quality of the natural environment.	• Same as under Alternative 1.	• These restoration/realignment rehabilitation projects would not occur and would not provide associated aesthetic changes; agricultural uses in the southern portion of the site would remain in their current condition.
• Initial changes to the site's character would include mass grading along portions of the hillside in the western portion of the site.	• Same as under Alternative 1.	• There would be no mass grading program and associated aesthetic changes.
• Excavation for the realigned S 178th Street and the north detention pond would create the most notable visual change within the northern portion of the site.	• Same as under Alternative 1.	• Southcenter Parkway would be improved under a different alignment, and associated aesthetic changes in

Alternative 1	Alternative 2	No Action Alternative
		the northern portion of the site would be minimal. S 178th Street would not be realigned.
• The improvements to Southcenter Parkway, construction of stormwater facilities and the relocation of the existing flood control barrier dike would alter the appearance of the landscape in the southern portion of the site.	• Same as under Alternative 1.	• Southcenter Parkway improvement would alter the landscape in this area. Other landscape-altering infrastructure changes would not occur in the southern portion of the site.
• Views across the site from the western hillside would change to feature graded areas; however, no mountain views would be blocked and the Green River and I-5 would continue as the predominant visual features in the area.	• Same as under Alternative 1.	• Views to the hillside would not change.
• Construction could include some added light and glare during morning and late afternoon/early evening hours for construction that would occur during winter months. During evening hours, lights associated with construction activities could potentially be seen from adjacent areas, including agricultural and open space areas to the south. Construction lights in the southern portion of the site could temporarily affect wildlife.	• Same as under Alternative 1.	• Similar to under Alternatives 1 and 2; however, there would be considerably less construction, and, in particular, areas near the southern portion of the site would be considerably less affected.
• During infrastructure development, there would be some relocation of light and glare associated with vehicles due to the relocation of S 178th and Southcenter Parkway.	• Same as under Alternative 1.	• Some relocation of light and glare associated with Southcenter Parkway would occur. S 178th Street would not be realigned, and there would be no associated relocation of light and glare.
Full Buildout		
• On an overall basis, the character of the site would be transformed to a denser, taller and more urban environment. Over time, changes to the site's visual/aesthetic conditions would be substantial.	• Similar to under Alternative 1, but development could be somewhat less intensive (lower in height).	• Overall, development of the site would represent an extension of the pattern of low-density industrial/retail uses in

Alternative 1	Alternative 2	No Action Alternative
		the surrounding area, and would be more suburban in character.
• The architectural scale of the majority of the campus would generally be low-rise to mid-rise with both surface and structured parking; it is possible that building heights in certain portions of the site (in the denser areas) could reach eight to ten stories.	• Similar to under Alternative 1; however, buildings would be a maximum of six to eight stories, and the overall scale and intensity would be less than under Alternative 1.	• Development on the site would be primarily single-story, with some possible big-box retail development.
• At full buildout, approximately 75 percent of the site would be developed in a mix of uses, and approximately 20 to 25 percent of the site would be retained in natural and newly landscaped area, providing visual relief and filtering views of built areas, both from within the site and from adjacent areas.	• Same as under Alternative 1.	• Approximately 55 percent of the site would be developed, and approximately 45 percent of the site would represent agricultural area and open space (including area unable to be developed), retained natural areas, and critical areas (e.g., wetlands, streams).
• Views to the site from the west would include new development on the valley floor and would change substantially from existing conditions. These views would reflect an urban, mixed-use development interspersed with landscaped and natural areas; however, distant views to Mt. Rainer and the Cascades from I-5 and other public roads, or from private residences, would be not impacted by development.	• Similar to under Alternative 1, but development could be somewhat less intensive (lower in height).	• Views to the site from the western hillside would change to some degree, with added industrial and retail buildings and associated truck activity visible.
• Views to the site from the north would change from industrial and business park uses to retail and mixed-use development. Through 2015, this development could take a more traditional retail form (resembling what currently exists in the Tukwila area) with surface parking lots. In the longer term, this development would likely reflect a more urban character, with plazas, green spaces, features conducive to pedestrians, and surface parking lots likely converted to structured parking facilities.	• Similar to under Alternative 1, but development could be somewhat less intensive (lower in height).	• Views would change to a more limited degree. The existing Segale Business Park would remain; big box retail uses could be developed near Southcenter Parkway and could be visible from areas north of the site.
• Views to the site from the east, including from Briscoe Park and the Green River trail, would include the Green River levee, new campus-	• Similar to under Alternative 1, but development could be somewhat less	• Views to the site from the east would change marginally, with

Alternative 1	Alternative 2	No Action Alternative
style building development, and new landscaped areas, as opposed to the riverbank, agricultural fields and industrial uses under existing conditions.	intensive (lower in height).	industrial/warehouse uses and associated truck activity in the central portion of the site.
• Views to the hillside would be more limited from some locations east of the site due to intervening buildings. The hillside contours would change somewhat, especially in the location of the realigned S 178th Street.	• Similar to under Alternative 1, but development could be somewhat less intensive (lower in height).	• Changes would be more limited and the hillside contours would not be altered.
• Views to the site from the south would change substantially from existing agricultural uses to a mix of uses at urban densities; rehabilitated wetland areas and the relocated flood protection barrier dike would be present in the foreground of views from the south.	• Similar to under Alternative 1, but development could be somewhat less intensive (lower in height).	• Views from the south would change only to the southwest portion of the site, where primarily single-story retail uses would be developed.
• The amount of overall potential light and glare generated on the site would increase; however, such impacts would not be expected to be significant.	• Similar to under Alternative 1, but to a somewhat lesser degree.	• Similar to under Alternatives 1 and 2, but to a considerably lesser degree, particularly in the southern portion of the site.
Mitigation Measures		
• The proposed Tukwila South Master Plan and the Development Agreement would include urban design principles that would apply to future development of the site, to achieve a consistent aesthetic character.	• Same as under Alternative 1.	• Consistent urban design principles would not likely be applied across the site.
• Under the proposed Master Plan, approximately 20 to 25 percent of the site would be retained in some form of open space, including retention of the majority of the western hillside, creation of new habitat areas and rehabilitation of wetlands, in addition to landscaped open space areas within developed areas. This open space would serve to soften the scale of development on the site and provide visual relief from surrounding areas.	• Same as under Alternative 1.	• Approximately 45 percent of the site would be retained in agricultural area and open space (including area unable to be developed), retained natural areas, and critical areas (e.g., wetlands, streams).
• Under the proposed Master Plan, amenities such as landscaped areas, urban plazas, courtyards, pedestrian/bicycle pathways and	• Same as under Alternative 1.	• Such amenities would not likely be provided to any substantial degree.

Alternative 1	Alternative 2	No Action Alternative
access to the Green River, would be incorporated into Tukwila South.		
• Revegetation of disturbed hillside areas in the vicinity of relocated S 178th Street would reduce the visual impact of hillside modifications.	• Same as under Alternative 1.	• S 178th Street would not be realigned, and associated changes to aesthetic conditions would not occur.
Significant Unavoidable Adverse Impacts		
• The Proposed Actions would result in the conversion of agricultural areas of the site to an urban mixed-use environment; the aesthetic/visual and light and glare impacts that would result from development of the site over the long term would not represent significant unavoidable adverse impacts.	• Same as under Alternative 1.	• No significant unavoidable adverse impacts to aesthetics or light and glare conditions would be expected.
TRANSPORTATION		
Significant Impacts		
Infrastructure Development		
• Approximately 400,000 cubic yards of import fill materials would be hauled to the site during a three-year period beginning in 2006 through 2008, primarily during the months of April through September. The average 10-hour haul day would include approximately 10 one-way truck trips per hour. This short-term haul requirement would not be expected to result in any significant adverse traffic impacts, safety impacts, or congestion concerns off the site.	• Same as under Alternative 1.	• There would be no defined infrastructure development phase or associated mass grading and hauling. Truck trips would be required for earthwork and to support construction of buildings and roads on an incremental basis. Considerably fewer truck hauling trips would occur.
• Construction traffic control/flagging during truck hauling would be necessary onsite at certain locations during the entire infrastructure development phase. Within the site, localized impacts would occur across Southcenter Parkway (SCP) between S 180th Street and Segale Park Drive C, as truck haul movements would transport material between Planning Area B (see Figure 2-3) and other portions of the site. Truck crossings of the Parkway would not result in	• Same as under Alternative 1.	• With no infrastructure development phase or associated mass grading and hauling, and hauling occurring on an incremental basis for individual building and road development projects, truck crossings of Southcenter Parkway would occur to

Alternative 1	Alternative 2	No Action Alternative
significant impacts, due to traffic control measures and limited traffic volumes on SCP (SCP would be open to local access traffic only during the SCP road improvement; once SCP is completed, volumes would increase, however, existing S 178th Street would remain open for as long as possible to limit new traffic on SCP). Once the new S 178th Street roadway is open, during an approximate 6-month construction season in year 3, traffic would be periodically interrupted on SCP between S 180th Street and Segale Park Drive C to accommodate truck crossings.		a lesser degree.
• An estimated 500,000 cubic-yards of fill for preload is estimated to be hauled to specific building sites during the first 10 years of full buildout, and could begin as early as 2007. This additional haul requirement would also not be expected to result in significant adverse traffic impacts, safety, or congestion concerns, if appropriate traffic control measures are implemented.	• Same as under Alternative 1.	• Considerably fewer hauling truck trips would likely occur for individual developments on the site.
<u>Full Buildout</u>		
• For the purpose of traffic analysis, baseline condition forecasts were made for 2015 and 2030. Baseline conditions refer to conditions without further development of the Tukwila South site, and account for general growth in the area. Two baseline networks were developed for the analysis, one for 2015 and one for 2030. These networks assumed selected improvements to the local and regional roadway system (see Section 3.12 and Appendix I for details).	• Same as under Alternative 1.	• Same as under Alternatives 1 and 2.
• Trip Generation: Net external PM peak hour trips under Alternative 1 development are estimated at 3,728 in 2015 and 13,975 in 2030.	• Net external PM peak hour trips from Alternative 2 development are estimated at 3,001 in 2015 and 10,166 in 2030.	• Net external PM peak hour trips from future development under the No Action Alternative are estimated at 1,859 in 2015 and 1,935 in 2030.
• Level of service (LOS) impacts were evaluated at 75 study area intersections (refer to Figure 3.12-2 in Section 3.12, Transportation) in the site vicinity and specific arterial segments for which the City has LOS standards, during the PM peak hour in 2015 and 2030, and were	• Same as under Alternative 1.	• Same as under Alternatives 1 and 2.

Alternative 1	Alternative 2	No Action Alternative
compared to City of Tukwila LOS and concurrency criteria. • City of Tukwila LOS/Concurrency standards require the following LOS to be maintained: - A minimum LOS E along: Interurban Avenue between Southcenter Boulevard and I-5; SR 181/West Valley Highway from I-405 to S 180th Street; Southcenter Boulevard between Grady Way and I-5; and, Southcenter Parkway south of S 180th Street. - A minimum average of LOS E in the Tukwila Urban Center (TUC) area (bounded by I-5, I-405, the Green River, and S 180th Street). - A minimum standard of LOS E for both intersections and other arterials principally serving commercially zoned property outside of the TUC. - An average LOS D for each specific minor and collector arterial and LOS D for individual intersections in residential areas. *Baseline Condition in 2015* • Under the 2015 Baseline Network, without development of Alternatives 1 and 2 in 2015, of the 75 intersections evaluated, the following six intersections will operate at LOS F during the PM peak hour: - Int. #5 - Interurban Avenue S at Fort Dent Way/I-405 SB Ramps (in Tukwila); - Int. #6 - Interurban Avenue S at Southcenter Boulevard/SW Grady Way (in Tukwila); - Int. #25 - E Valley Road at SW 43rd Street (in Renton/Kent); - Int. #40 - E Valley Road at S 212th Street (in Kent); - Int. #49 - SR 167/Rainier Avenue S at SW Grady Way (in Renton); and, - Int. #55 - E Valley Road at SR 167 SB Ramps (in Kent). *Operational Impacts in 2015*	• Standards apply to all development alternatives. • Same as under Alternative 1.	• Standards apply to all development alternatives. • Same as under Alternatives 1 and 2.
• Under Alternative 1 in 2015, assuming the 2015 Baseline Network, two	• Same as under Alternative 1.	• No level of service deficiencies (LOS

Alternative 1	Alternative 2	No Action Alternative
additional intersections would degrade to LOS F (beyond those six that would operate at LOS F under 2015 baseline conditions): - Int. #20 – Andover Park W at S 180th Street (in Tukwila); and, - Int. #33 – Southcenter Parkway at Segale Park Drive C (in Tukwila). Within the site, Intersection #33 (Southcenter Parkway at Segale Park Drive C) would likely require signalization and intersection improvements as a result of the S 178th Street realignment. With installation of a signal, this intersection would operate at LOS E.		F conditions) would result beyond those identified under baseline conditions.
• In 2015, assuming the 2015 Baseline Network, all of the individual arterial segments analyzed would operate at LOS D or better and the average within the TUC would be LOS D for arterial segments and LOS C for intersections. Concurrency standards would be met. *Baseline Condition in 2030*	• Same as under Alternative 1.	• Same as under Alternatives 1 and 2.
• Without the project, in 2030 the following 18 intersections would operate at LOS F: - Int. #5 - Interurban Avenue S at Fort Dent Way/I-405 SB Ramps (in Tukwila); - Int. #6 - Interurban Avenue S at Southcenter Boulevard/SW Grady Way (in Tukwila); - Int. #16 - Andover Park W at Strander Boulevard (in Tukwila); - Int. #17 - Andover Park E at Strander Boulevard (in Tukwila); - Int. #20 – Andover Park W at S 180th Street (in Tukwila); - Int. #25 - E Valley Road at SW 43rd Street (in Renton/Kent); - Int. #26 - SR 167 NB Ramps at SW 43rd Street (in Renton); - Int. #31 - I-5 NB Ramps at Orillia Road S (in SeaTac); - Int. #33 – Southcenter Parkway at Segale Park Drive C (in Tukwila); - Int. #36 - SR 181/W Valley Highway at S 196th Street (in Kent); - Int. #37 - E Valley Road at S 196th Street (in Kent); - Int. #39 - SR 181/W Valley Highway at S 212th Street (in Kent); - Int. #40 - E Valley Road at S 212th Street (in Kent); - Int. #41 - SR 167 SB Ramps at S 212th Street (in Kent);	• Same as under Alternative 1.	• Same as under Alternatives 1 and 2.

Alternative 1	Alternative 2	No Action Alternative
- Int. #42 - SR 167 NB Ramps at S 212th Street (in Kent); - Int. #47 - Oakesdale Avenue SW at SW Grady Way (in Renton); - Int. #55 - E Valley Road at SR 167 SB Ramps (in Renton); and, - Int. #67 - Sperry Drive at S 180th Street (in Tukwila). *Operational Impacts in 2030* • Under Alternative 1 in 2030, a total of 37 intersections would operate at LOS F during PM peak commute hours, unless additional improvements are made (18 intersections without the project, plus 19 additional with the project). The additional 19 intersections are: - Int. #1 - I-5 SB Off-Ramp/S 154th Street at Southcenter Boulevard (in Tukwila); - Int. #2 – Macadam Road at Southcenter Boulevard (in Tukwila); - Int. #3 – 61st Avenue S at Southcenter Boulevard (in Tukwila); - Int. #13 – Southcenter Parkway at I-5 NB Off-Ramp (in Tukwila); - Int. #18 - Military Road S at S 176th Street (in SeaTac); - Int. #19 - Southcenter Parkway at S 180th Street (in Tukwila); - Int. #22 - SR 181/W Valley Highway at S 180th Street (in Tukwila); - Int. #23 – Oakesdale Avenue at SW 43rd Street (in Renton); - Int. #30 - I-5 SB Ramps at Orillia Road S (in SeaTac); - Int. #32 - Orillia Road S at S 200th Street (in unincorporated King County); - Int. #33 - Southcenter Parkway at Segale Park Drive C (in Tukwila); - Int. #34 - Southcenter Parkway at S 200th Street (in Tukwila); - Int. #35 - S 196th Street at 62nd Avenue S (in Kent); - Int. #49 - SR 167 (Rainier Ave S) at SW Grady Way (in Renton) - Int. #61 - Southcenter Parkway at S 168th Street (in Tukwila); - Int. #62 - Southcenter Parkway at Minkler Boulevard (in Tukwila) - Int. #63 - Andover Park W at Minkler Boulevard (in Tukwila); - Int. #65 – Southcenter Parkway at 17500 Block; and, - Int. #75 – Southcenter Parkway at I-5 NB Off-Ramp. With the additional transportation system improvements listed Table	• Under Alternative 2 in 2030, a total of 28 intersections would operate at LOS F during PM peak commute hours, unless additional improvements are made (18 intersections without the project, plus 10 additional with the project). The 10 additional intersections are: - Int. #1 - I-5 SB Off-Ramp/S 154th Street at Southcenter Boulevard (in Tukwila); - Int. #22 - SR 181/W Valley Highway at S 180th Street (in Tukwila); - Int. #30 - I-5 SB Ramps at Orillia Road S (in SeaTac); - Int. #32 - Orillia Road S at S 200th Street (in unincorporated King County); - Int. #33 - Southcenter Parkway at Segale Park Drive C (in Tukwila); - Int. #34 - Southcenter Parkway/Frager Road at S 200th Street (in Tukwila); - Int. #35 - S 196th Street at 62nd Avenue S (in Kent); - Int. #61 - Southcenter Parkway at S 168th Street (in Tukwila); - Int. #63 - Andover Park W at	• Under the No Action Alternative in 2030, a total of 23 intersections would operate at LOS F during PM peak commute hours, unless additional improvements are made (18 intersections without the project, plus 5 additional with the project). The 5 additional intersections are: - Int. #1 - I-5 SB Off-Ramp/S 154th Street at Southcenter Boulevard (in Tukwila); - Int. #19 - Southcenter Parkway at S 180th Street (in Tukwila); - Int. #22 - SR 181/W Valley Highway at S 180th Street (in Tukwila); - Int. #34 - Southcenter Parkway at S 200th Street (in Tukwila); and, - Int. #63 - Andover Park W at Minkler Boulevard (in Tukwila).

Alternative 1	Alternative 2	No Action Alternative
3.12-13, 18 out of the total 37 "LOS F" intersections would continue to operate at LOS F, while 19 of these intersections would improve to better than LOS F.	Minkler Boulevard (in Tukwila); and, - Int. #75 – Southcenter Parkway at I-5 NB Off-Ramp. With the additional transportation system improvements listed in Table 3.12-13, 15 out of the total 28 "LOS F" intersections would continue to operate at LOS F, while 13 of these intersections would improve to better than LOS F.	
• In the year 2030, assuming the 2030 Baseline Network, Southcenter Boulevard from Grady Way to I-5 would operate at LOS F. However, with the addition of a new east-west site access roadway from the site to Orillia Road in 2030, this arterial LOS deficiency would be alleviated.	• The segment of Southcenter Boulevard from Grady Way to I-5 would meet City LOS/Concurrency standards without additional improvements.	• No arterial LOS deficiencies would be expected, and City LOS/Concurrency standards would be met.
• The Tukwila Urban Center arterial average would be LOS F without improvements. However, with the addition of a new east-west site access roadway from the site to Orillia Road in 2030, these TUC arterial LOS deficiencies would be alleviated (LOS E). Within the TUC, arterial and intersection standards would be met.	• Same as under Alternative 1.	• No arterial LOS deficiencies would be expected, and City LOS/Concurrency standards would be met.
• All other arterials would operate at LOS E or better.	• Same as under Alternative 1.	• Same as under Alternatives 1 and 2.
• In 2030, certain City intersection LOS/concurrency criteria outside the TUC would not be met, even with all identified additional improvements.	• With additional potential infrastructure improvements to intersections, Alternative 2 would meet City intersection LOS/concurrency criteria outside the TUC in 2030.	• City intersection LOS/Concurrency standards would be met without the need for improvements.
Site Access and Circulation		
• Primary vehicular site access would continue to be provided via the	• Same as under Alternative 1.	• Same as under Alternatives 1 and 2.

Alternative 1	Alternative 2	No Action Alternative
north-south corridors of Southcenter Parkway and Andover Park W, and the east-west corridors of S 178th Street/S 180th Street and S 200th Street.		
• Within the Tukwila South site, Segale Park Drive C would remain open as a private road (until such time as the Segale Business Park is redeveloped; at the time of redevelopment the private road system may or may not be converted to public streets). No significant adverse traffic impacts or traffic redistribution would occur as a result of the S 178th Street realignment, prior to opening Segale Park Drive C as a public street. If this scenario occurs, the intersection configuration of #33 (Southcenter Parkway at Segale Park Drive C) would be signed and controlled with a signal to discourage through-traffic from moving directly between the realigned S 178th Street and Segale Park Drive C.	• Same as under Alternative 1.	• The opening of Segale Park Drive C as a public street would not likely occur.
• By 2030, it is assumed that a site access roadway would be connected as the south leg of the Southcenter Parkway/S 200th Street intersection for assumed uses south of S 200th Street in Planning Area I (see Figure 2-3).	• Same as under Alternative 1.	• There would be substantially less development in the south portion of the site, and a site access roadway connecting to Southcenter Parkway/S 200th Street would not be necessary.
• Construction of a new east-west site access roadway from the west portion of the site to Orillia Road S would occur at some point prior to buildout in 2030 (through Planning Area G).	• Same as under Alternative 1.	• With substantially less development on the site, a new east-west site access roadway would not be required.
Public Transportation, Non-Motorized and Rail Impacts		
• At full buildout, a high demand for transit services would likely result that could lead to investment in both local shuttle and regional fixed-route transit services to, from, and within the site.	• Same as under Alternative 1.	• Demand for transit services would be considerably lower than under Alternatives 1 and 2.
• Non-motorized treatments to, from, and within the site could provide pedestrian treatments consistent with arterial systems north of the site. Major intersections identified along Southcenter Parkway would	• Same as under Alternative 1.	• There would likely be fewer non-motorized facility improvements under the No Action Alternative than under

Alternative 1	Alternative 2	No Action Alternative
provide for safe non-motorized crossing treatments of this road at five potential locations, including S 200th Street, New Orillia Road Connector, New Internal Road (Parcel E/F), S 178th Street/Segale Park Drive C, and S 180th Street. Within the site, separated sidewalks and walkways could be constructed along internal streets, within parking areas, between parking areas and building entries, and between linked buildings within the development in a campus setting (refer to Chapter 2 for further discussion of possible pedestrian and bicycle opportunities at Tukwila South).		Alternatives 1 and 2; however, this alternative would also generate less demand for such facilities.
• With the addition of up to approximately 33,000 employees and residents at the site at buildout, plus customers drawn to the site by retail land uses, the potential for pedestrian and bicycle collisions on streets, at intersections, and where pedestrian/bicycle pathways intersect with streets would increase.	• Similar to Alternative 1; however, with a smaller number of employees and residents on the site (approximately 24,000).	• With approximately 4,500 employees on the site, considerably less retail, and no new residents on the site, the potential for collisions would be considerably lower.
• Retention of the existing spur rail facilities by UP could prove problematic in providing local infrastructure needs within the site if additional at-grade crossings are necessary. Existing at-grade railroad crossings that intersect potential new or converted public streets within the redeveloped Segale Business Park area would be required to meet federal railway crossing standards for public roadways, or the spur/crossing would have to be abandoned.	• Same as under Alternative 1.	• The Segale Business Park would not be redeveloped, and the spur/crossing within the Segale Business Park would not need to be abandoned.
Mitigation Measures		
Infrastructure Development		
• All agreed upon truck haul routes would have their condition assessed at the beginning of the operation, videotaped, and assessed at the completion. The applicant would be responsible for restoring the routes to the condition the roads were in at the start of the hauling operation.	• Same as under Alternative 1.	• Similar measures would likely be required.
• Construction traffic control/flagging during truck hauling would be implemented onsite at certain locations during the entire infrastructure	• Same as under Alternative 1.	• Similar measures could possibly be required but would be of shorter

Alternative 1	Alternative 2	No Action Alternative
development phase to reduce impacts from truck crossings of Southcenter Parkway.		duration; there would be no initial infrastructure development phase, and hauling would apply only to specific development projects.
• Existing S 178th Street could remain open after the newly realigned roadway is complete (during the third construction season of the infrastructure development phase) to limit new traffic volumes on Southcenter Parkway; this would reduce impacts from truck crossings associated with excavation activities in the northwest portion of the site.	• Same as under Alternative 1.	• S 178th Street would not be realigned, and the new intersection would not be created.
• The new intersection of S 178th Street/Southcenter Parkway/Segale Park Drive C would be signed and controlled with a signal to discourage through-traffic from moving through the private Segale Business Park street system.	• Same as under Alternative 1.	• S 178th Street would not be realigned, and the new intersection would not be created.
Full Buildout		
• As provided under Tukwila Municipal Code 9.48, project traffic impacts, as defined by the City's Level of Service/Concurrency standards, would be mitigated through a combination of impact fee payments, proportional share contributions, and project-specific improvements to support site access.	• Same as under Alternative 1.	• Same as under Alternatives 1 and 2.
Intersection Improvements, 2015 and 2030		
• Specific intersection improvements that would be required under Alternative 1 (as well as improvements for baseline conditions) in 2015 and 2030 to mitigate impacts from Tukwila South development are summarized in Tables 3.12-12 and 3.12-13 in Section 3.12, Transportation, respectively.	• Tables 3.12-12 and 3.12-13 also define specific intersection improvements that would be required under the Alternative 2 in 2015 and 2030, respectively.	• Tables 3.12-12 and 3.12-13 also define specific intersection improvements that would be required under the No Action Alternative in 2015 and 2030, respectively.
Arterial Access Improvements, 2015		
• At key intersections on Southcenter Parkway between S 180th Street	• Same as under Alternative 1.	• No improvements, beyond those

Alternative 1	Alternative 2	No Action Alternative
and S 200th Street, additional turning movement capacity would be necessary.		needed to serve baseline growth, would be necessary.
• As proposed, the west leg of the Southcenter Parkway at S 180th Street intersection (S 178th Street) would be removed and re-routed through the Tukwila South site to connect to the west leg of the Southcenter Parkway at Segale Park Drive C intersection. This new roadway would need to be 2 lanes in 2015. Channelization improvements would be made to Intersections #19 (Southcenter Parkway at S 180th Street), and #33 (Southcenter Parkway at S Segale Park Drive C) as a result of this new roadway alignment.	• Same as under Alternative 1.	• S 178th Street would not be realigned, and associated improvements would not be necessary.
Arterial Access Improvements, 2030		
• By 2030, a new east-west access connector arterial between the site and Orillia Road would be required. The specific design, alignment and timing of this improvement would be determined in conjunction with the City of Tukwila and would be dependent on the specific mix of uses and level of development at the site, but would likely be necessary prior to buildout. This roadway would likely need to be a minimum of 4 lanes to accommodate traffic demand and reduce impacts on S 200th Street.	• Same as under Alternative 1.	• No improvements, beyond those needed to serve baseline growth, would be required.
• Additional channelization improvements would be necessary at Intersection #34 (Southcenter Parkway at S 200th Street) to support full buildout.	• Same as under Alternative 1.	• Same as above under the No Action Alternative.
• Additionally, a signalized site access roadway into Planning Area F (see Figure 2-3) would likely be required between the future new arterial access from Southcenter Parkway to Orillia Road (described above), and a realigned S 178th Street/Segale Park Drive C (noted as Intersection #76). The need for additional access onto Southcenter Parkway beyond these major intersection locations or internal parallel collector roadway systems within the site area would be dependent upon the ultimate type, density, and location of development within the Tukwila South site.	• Same as under Alternative 1.	• Same as above under the No Action Alternative.

Alternative 1	Alternative 2	No Action Alternative
• S 178th Street (which would be re-routed through the Tukwila South site to connect to Southcenter Parkway at Segale Park Drive C during the infrastructure development phase) would need to be between 2 and 4 lanes in 2030 (depending upon the ultimate type and density of land uses developed within Planning Areas A and B).	• Same as under Alternative 1.	• Same as above under the No Action Alternative.
• Inclusion of additional freeway connections to I-5 to directly serve the site would reduce access demands at other interchange connections and arterials leading to established interchange systems, and could better meet the travel demand needs of Alternative 1. However, previous studies of new freeway access in the site vicinity by WSDOT have determined that this type solution may not be feasible.	• Additional freeway connections to I-5 to directly serve the site would not be required to better meet travel demand needs.	• Same as above under the No Action Alternative.
Potential for Vehicle Trip Reduction		
• The City of Tukwila's Commute Trip Reduction (CTR) Plan is consistent with the 1992 South King County CTR as required under the 1990 Washington State CTR legislation. Future developments at the Tukwila South site that exceed 100 employees would be required to reduce the proportion of single-occupant vehicle (SOV) and vehicle miles of travel by 35 percent over those rates in 1992. Carpooling could potentially reduce PM peak hour trips by between 6 and 9 percent.	• Same as under Alternative 1.	• CTR plans may or may not be required depending upon the specific industrial and retail businesses that locate at the site in the future.
• While there are no current regional plans to serve the site directly by existing or future high capacity transit systems, potential reductions in PM peak hour site trip generation resulting from such high capacity system connections in the future could range between 10 and 25 percent, depending upon the specific type and connection made. Example systems could include a shuttle/fixed system between the site and future transit centers and major trip generators.	• Same as under Alternative 1.	• High capacity transit systems would not serve the site in the future.
Significant Unavoidable Adverse Impacts		
• In 2030, increased traffic generated by Alternative 1 would cause increased congestion at study area intersections, arterials, and	• In 2030, increased traffic generated by Alternatives 2 would cause increased	• No significant unavoidable adverse impacts to the area transportation

Alternative 1	Alternative 2	No Action Alternative
freeway access ramps. With the addition of a new east-west access connector arterial between the site and Orillia Road, the arterial LOS deficiencies are forecasted to meet City LOS standards in 2030. However, with or without an additional east-west connection and other identified improvements, high capacity transit measures and/or new freeway connections directly to I-5 to serve the site area would likely be required. New freeway connections may not be feasible; therefore, Alternative 1 would not likely meet concurrency standards for intersections even with identified improvements.	congestion at study area intersections, arterials, and freeway access ramps. With identified mitigation, including the addition of the new east-west access connector arterial and other identified improvements, trips generated under Alternative 2 would meet City LOS standards on local and regional roadways, and all site access intersection LOS would meet City standards.	system would be expected to result.
AIR QUALITY **Significant Impacts**		
• Construction impacts to air quality would be experienced during both the infrastructure development and the full buildout phases, but would be greatest during infrastructure development.	• Same as under Alternative 1.	• Similar to but less than under Alternatives 1 and 2, given that less grading and site disturbance would occur and less site area would be developed.
• Fugitive emissions from particulate matter less than 10 micrometers in size (PM_{10}) would be associated with demolition, land clearing, ground excavation, and cut-and-fill operations. The quantity of particulate emissions would be proportional to the area of the construction operations and the level of activity.	• Same as under Alternative 1.	• Similar to but less than under Alternatives 1 and 2, given that less grading and site disturbance would occur and less site area would be developed.
• If uncontrolled, fugitive PM_{10} emissions from construction activities in proximity to Orillia Road could be noticeable at a few offsite residences located in proximity to Orillia Road and within several hundred feet of possible construction in Planning Areas G and I (see Figure 2-3), without the proposed mitigation measures. Residences adjacent to the northwest portion of the site would be removed as part of development and would not experience fugitive emissions from the S 178th Street realignment.	• Same as under Alternative 1.	• There would be fewer construction activities in proximity to Orillia Road; therefore, impacts to residences in this area would be considerably less than under Alternatives 1 or 2. As no realignment of S 178th Street is assumed, residences in the vicinity of that roadway would not be impacted

Alternative 1	Alternative 2	No Action Alternative
		by fugitive emissions from roadway realignment.
• During infrastructure development and construction, heavy trucks and construction equipment powered by gasoline and diesel engines would temporarily generate small particulates, carbon monoxide (CO), and nitrogen oxides ($NO_{x)}$ in exhaust emissions in the immediate area (see Section 3.13, Air Quality). If construction traffic and lane closures were to increase congestion and reduce the speed of other vehicles in the area, emissions from traffic would increase temporarily.	• Same as under Alternative 1.	• Similar to under Alternatives 1 and 2, but to a lesser degree.
• Some construction activities would result in short-term odors. These odors could be detectable to some people near the site, and would be diluted as distance from the site increases.	• Same as under Alternative 1.	• Same as under Alternatives 1 and 2.
• CO emissions would be associated with vehicle traffic from the Tukwila South development. No exceedances of the one hour or eight-hour average National Ambient Air Quality Standards (NAAQS) for CO were predicted, for the 2015 or 2030 time period. Therefore, no significant air quality impacts from project traffic would be expected.	• Similar to Alternative 1; however, CO concentrations would be less.	• No exceedances of the one hour or eight-hour average NAAQS for CO were predicted; CO concentrations would be less than Alternatives 1 or 2.
Mitigation Measures		
• Proposed mitigation measures to control PM10, deposition of particulate matter and emissions of CO and NO_x during construction (primarily during infrastructure development) would be implemented per the Associated General Contractors of Washington Guidelines (1997) (see Section 3.13, Air Quality for a list of these measures).	• Same as under Alternative 1.	• Same as under Alternatives 1 and 2.
Significant Unavoidable Adverse Impacts		
• None are anticipated.	• Same as under Alternative 1.	• Same as under Alternatives 1 and 2.

Alternative 1	Alternative 2	No Action Alternative
NOISE **Significant Impacts**		
• Noise sources during construction could include engines, earth-moving equipment, material-handling equipment, and stationary equipment, trucks, impact equipment, and tools.	• Same as under Alternative 1.	• Same as under Alternatives 1 and 2.
• A substantial portion of construction noise would occur between approximately 2006 and 2008, during construction of the Southcenter Parkway improvement, realignment of S 178th Street, and mass grading over a large portion of the site. Maximum noise levels from construction equipment could range from 69 to 106 dBA at a distance of 50 feet (15 meters). In general, construction activities would occur between 7 AM and 10 PM on weekdays and between 8 AM and 10 PM on weekends.	• Same as under Alternative 1.	• Noise impacts would be of shorter duration than under Alternatives 1 or 2 and would primarily affect the area closest to the Southcenter Parkway improvement. The realignment of S 178th Street and the mass grading program and their associated noise would not occur.
• The most sensitive noise receptors at the site are adjacent residences, many of which would be removed as part of the infrastructure development phase. Other noise receptors include users of Briscoe Park and the Green River Trail, east of the river and the site. Construction activities closest to the east and south perimeters of the site, could affect off-site receptors in these areas on a temporary basis.	• Same as under Alternative 1.	• Similar to under Alternatives 1 and 2; however, fewer residences would likely be removed, and there would be fewer construction activities near the east and south perimeters of the site.
• At full buildout, motor vehicle traffic would be the single greatest noise source on the site. Worst-case modeled noise levels at the six receptor locations analyzed (see Section 3.14, Noise) indicated potential increases of between 2 and 7 A-weighted decibels (dBA; see Section 3.14, Noise) above the modeled existing conditions. These increases would be caused primarily by traffic volume increases and the realignment of S 178th Street. Noise increases of 3 dBA and under are barely perceptible to most individuals.	• At full buildout, there would be approximately 10 percent to 25 percent less traffic volume than under Alternative 1. Worst-case noise levels would be between 1 and 2 dBA lower than under Alternative 1 in 2030 (increases of 1 to 5 dBA).	• At full buildout, worst-case noise levels in the site area would experience an increase between 1 and 3 dBA above existing conditions due to traffic.

Alternative 1	Alternative 2	No Action Alternative
• At full buildout, noise levels from traffic would further exceed noise abatement criteria (such criteria are exceeded under existing conditions) at approximately four existing residences that would still be present under buildout near S 200th Street at Orillia Road (see Section 3.14, Noise). However, the increase would be approximately 3 dBA, which would be barely perceptible by most individuals.	• Similar to under Alternative 1; however, the noise level increase in this area would be slightly lower (2 to 3 dBA).	• Similar to under Alternatives 1 and 2; however, the noise level increases in this area would be slightly lower (1 to 3 dBA).
• Noise abatement criteria for residences (67 dBA) could be exceeded at distances up to 250 feet from Southcenter Parkway.	• Same as under Alternative 1.	• The exceedance of noise abatement criteria for residences near Southcenter Parkway would not be relevant as no residential uses are assumed.
Mitigation Measures		
Construction Noise		
• Construction noise would be mitigated in terms of duration by the limits on construction noise during certain hours imposed by the Tukwila Municipal Code (TMC 8.22). The need for additional measures would be dependent upon the specific location, design and degree of required construction activities in proximity to off-site sensitive noise receptors. Evaluation of the need for and the selection of any measures would occur as part of the construction permit approval process.	• Same as under Alternative 1.	• Same as under Alternatives 1 and 2.
• When construction activities would occur in close proximity to noise sensitive receptors, mitigation measures could be incorporated into construction plans and contractor specifications in order to reduce construction noise at these specific locations (see Section 3.14, Noise for a list of these measures).	• Same as under Alternative 1.	• Same as under Alternatives 1 and 2.
Operational Noise		
• A determination of the specific need for implementation of any mitigation methods, related to potential noise abatement needs for	• Same as under Alternative 1.	• Noise mitigation would not be required, as residential uses are not

Alternative 1	Alternative 2	No Action Alternative
future potential residences within the site at distances up to 250 feet from the center of Southcenter Parkway, would be evaluated at the time of any future building permit applications to the City of Tukwila (see Section 3.14, Noise, for a list of possible mitigation measures). **Significant Unavoidable Adverse Impacts** • The predicted noise levels, as analyzed, would not result in significant unavoidable adverse impacts.	• Same as under Alternative 1.	assumed. • Same as under Alternatives 1 and 2.
PUBLIC SERVICES **Significant Impacts** <u>Fire Protection</u> • Construction-related impacts on fire protection, emergency medical, and law enforcement service providers would include the potential for increases in calls for service related to injury, fire incidences, construction site theft and vandalism.	• Similar to Alternative 1, but to a lesser degree.	• Similar to Alternatives 1 and 2, but to a considerably lesser degree.
• At full buildout, new development would generate additional calls for fire protection and emergency services to the site. The magnitude of calls would depend on factors related to actual types, quantities, location, and design of different land uses and demographic characteristics.	• Similar to Alternative 1, but to a lesser degree.	• Similar to Alternatives 1 and 2, but to a considerably lesser degree, and with no calls generated by new residential population.
• In order to maintain its response time goal of four minutes, and effectively serve the site over the long term, the Fire Department has indicated that it would seek to relocate Station 51 to a site closer to S 180th Street at some point during the buildout period.	• Same as under Alternative 1.	• Depending upon the actual amount of development that results in the future (as well as other growth in the service area), relocation of Station 51 could be required as well.
• The Fire Department anticipates that the station would likely be expanded to accommodate additional equipment and staffing, such as a ladder truck. If additional equipment is purchased for an expanded	• Same as under Alternative 1.	• Additional equipment could be purchased and associated staffing hired; however, the need would not

Alternative 1	Alternative 2	No Action Alternative
Station 51, staffing requirements would also increase. The need for additional equipment and staffing could result from cumulative growth in the area (Tukwila South and other growth in the area).		likely be generated by onsite development.
• It is estimated that one additional fire inspector would likely be needed during infrastructure construction. At full buildout, it is estimated that two to three additional fire inspectors would be needed to handle the added workload of inspecting development.	• Same as under Alternative 1.	• Fewer additional inspectors would likely be required, if any.
Law Enforcement		
• The site could form one or two new patrol districts within the Tukwila Police Department service area.	• Same as under Alternative 1.	• Depending on actual need, the site could form a new patrol district.
• At full buildout, based on the Tukwila Police Department's existing calls per officer ratio of 440 calls, proposed development could result in the need for an additional 10.9 to 19.5 police officers over the buildout period (see Section 3.15, Public Services for estimating methods).	• Development could result in a need for an additional 5.3 to 11.2 police officers over the buildout period.	• From 0.7 to 3.2 officers could be required to handle the estimated volume of calls.
• Certain research and development uses at the site could result in the need for specialized training for the Police Department relative to hazardous material handling. Depending upon specific uses, homeland security issues could arise, also requiring specialized training and equipment.	• Same as under Alternative 1.	• This need would not likely occur, as research uses would not likely be developed.
• According the Tukwila Police Department, 1.5 additional detectives, one additional traffic enforcement officer, one additional service transport officer, and three support staff members could be needed to serve the site at full buildout.	• Similar to under Alternative 1, but likely fewer non-officer staff members would be needed.	• Considerably fewer non-officer staff members would be needed than under Alternatives 1 and 2.
• A police facility on or near the site of approximately 850 square feet could be needed as a result of the proposed development and other growth in the area, and could be combined with another facility, such as a fire station or within retail development.	• Same as under Alternative 1.	• A police facility on or near the site would not likely be needed.

Alternative 1	Alternative 2	No Action Alternative
Schools		
• At full buildout, approximately 904 students could be generated from residential uses on the site, based on the Kent School District's student generation factor. It is also assumed these students would be split evenly between the Kent and Renton School Districts. It is assumed that adequate capacity would exist to accommodate the added student demand based on future capital facilities planning by the School Districts.	• At full buildout, approximately 333 students could be generated on the site. It is assumed that adequate capacity would exist to accommodate the added student demand based on future capital facilities planning by the School Districts.	• No new students would be generated, since no new residential land use is assumed.
• Based on the distance of existing schools in the Renton and/or Kent School Districts from the site, students would need to be bused to all school facilities.	• Same as under Alternative 1.	• No new students would be generated and busing would not be required.
Maintenance of Public Facilities		
• New public infrastructure constructed for the proposed project would require maintenance by the City. The total number of full time equivalent (FTE) staff that could be required to perform maintenance is estimated at approximately 0.3 FTEs, assuming 1.5 miles of sewer pipe, 2 miles of stormwater pipe, 1.63 miles of public roadway, and one to three new traffic signals would be required. The need for this staff would begin as infrastructure elements are completed.	• Same as under Alternative 1.	• The total number staff to perform maintenance on new infrastructure is estimated at 0.2 FTE.
Mitigation Measures		
• All new buildings would be constructed in compliance with the City of Tukwila's International Building Code and Fire Code regulations pertaining to emergency egress routes and installation of fire extinguishing and smoke detection systems.	• Same as under Alternative 1.	• Same as under Alternatives 1 and 2.
• Construction worker safety measures would be implemented in accordance with Occupational Safety and Health Administration (OSHA) standards.	• Same as under Alternative 1.	• Same as under Alternatives 1 and 2.
• Adequate fireflow for all development projects would be required (see	• Same as under Alternative 1.	• Same as under Alternatives 1 and 2.

Alternative 1	Alternative 2	No Action Alternative
the Mitigation Measures for Section 3.16, Utilities).		
• Onsite security measures would be implemented during construction activities and would include fencing and signage to prevent public access, securing areas where equipment is stored, and onsite security surveillance (if determined to be needed).	• Same as under Alternative 1.	• Same as under Alternatives 1 and 2.
• To serve Tukwila South and other growth in the area, Fire Station 51 could be relocated to a site within Tukwila South or within the site vicinity.	• Same as under Alternative 1.	• Relocation of Fire Station 51 may or may not be required.
• An impact-fee ordinance could be adopted by the City of Tukwila to allow collection of impact fees from new residential and commercial development in the City to provide funding for additional capital needs of the Tukwila Fire Department.	• Same as under Alternative 1.	• Same as under Alternatives 1 and 2.
• A police facility could be co-located with a relocated Fire Station 51 or located within another building onsite.	• Same as under Alternative 1.	• A police facility would not likely be required.
• The adopted Tukwila South Master Plan could include design guidelines to encourage crime prevention through certain design techniques (environmental design). Campus-style development could be designed to promote public safety (see Section 3.15, Public Services for examples of these design features). Open spaces between buildings could be centrally located.	• Same as under Alternative 1.	• Overall design guidelines would not likely be adopted.
• An onsite campus security force(s) could be employed at Tukwila South, to meet the needs of emerging technology companies and institutions and could reduce the demand for preventative police patrols.	• Same as under Alternative 1.	• Onsite security forces would not likely be provided.
• An impact-fee ordinance could be adopted by the City of Tukwila to allow collection of impact fees from new residential development in the City that is located within the portion of the site located within the Kent School District.	• Same as under Alternative 1.	• No new residential development would be expected on the site.

Alternative 1	Alternative 2	No Action Alternative
Significant Unavoidable Adverse Impacts • Development levels assumed under Alternatives 1 and 2 would create substantial new employment and population capacity that would generate additional demands on public service agencies. With implementation of appropriate mitigation measures, no significant unavoidable adverse impacts to public services from the Proposed Actions or future development would be expected.	• Same as under Alternative 1.	• With implementation of mitigation measures, no significant unavoidable adverse impacts to public services would be expected.
UTILITIES **Significant Impacts** • Major site preparation and infrastructure development is proposed at the outset of the project.	• Same as under Alternative 1.	• The Infrastructure Development Phase would not occur. Major utility extensions for water and sewer service would be coordinated with the improvement of Southcenter Parkway in the future.
• Extensions from major utility lines to individual planning areas would be constructed as the site develops over the buildout period.	• Same as under Alternative 1.	• Same as under Alternatives 1 and 2.
• A 12-inch water transmission main would be extended within the Southcenter Parkway right-of-way. In the future, additional intertie points or pressure reducing station(s) could be required. It is not anticipated that any additional water source, storage or pumping facilities would be required to adequately serve the site.	• Same as under Alternative 1.	• Similar to under Alternatives 1 and 2; however, the size of the water transmission main could be smaller and the route would follow Southcenter Parkway.
• Sections of the existing Highline Water District water distribution system would require relocation, including the section of 18-inch water main between South 200th Street and South 204th Street. It is not anticipated that there would be interruptions of service to water users during the infrastructure development phase.	• Same as under Alternative 1.	• No sections of the existing Highline Water District water distribution system would likely require relocation.
• At full buildout, the estimated water demand would be 535,497,872 gallons per year. Based on current projections, the Highline Water	• At full buildout, the estimated water demand would be 355,531,176 gallons	• At full buildout, the estimated water demand would be 26,836,992 gallons

Alternative 1	Alternative 2	No Action Alternative
District would have adequate capacity to serve demand over the long-term buildout.	per year.	per year.
• Modifications and system designs for fire flow service to the site could be required, depending on the specific size, type and location of future development projects onsite.	• Same as under Alternative 1.	• Modifications for fire flow would not likely be required.
• A 21- to 24-inch sewer trunk line would be constructed within Southcenter Parkway. The use of a gravity sewer system is assumed; however, the City of Tukwila is also evaluating the possibility of a lift station in conjunction with this sewer trunk line.	• Same as under Alternative 1.	• Similar to under Alternatives 1 and 2; however, the size of the sewer line could be smaller and the route would follow Southcenter Parkway.
• The annual wastewater flow is estimated at 427,071,008 gallons per year, and the total annual flow is estimated at 516,287,408 gallons per year. Based on current projections, the City of Tukwila and the King County regional wastewater treatment system would have adequate capacity to serve wastewater flows over the long-term buildout.	• The annual wastewater flow is 278,464,732 gallons per year, and the total annual flow is estimated at 367,681,132 gallons per year.	• The annual wastewater flow is 20,385,456 gallons per year, and the total annual flow is estimated at 109,601,856 gallons per year.
• During the infrastructure phase, electrical conduits and vaults to serve the anticipated electrical need at full buildout would be installed underground within the expanded and realigned Southcenter Parkway. Conduits and vaults to relocate the existing distribution circuit within S 178th Street would be installed within the realigned S 178th Street.	• Same as under Alternative 1.	• During the infrastructure phase, electrical conduits and vaults to serve the anticipated need at full buildout would be installed underground within the expanded and realigned Southcenter Parkway.
• At full buildout, the estimated total electrical demand from development would be approximately 73 Mega Volt Ampere (MVA).	• At full buildout, the estimated total electrical demand from development would be approximately 52 MVA.	• At full buildout, the estimated total electrical demand from development would be approximately 8 MVA.
• In order to provide electrical service for the estimated demand, two new above-ground substations would be required. The first new substation would be required once the load from the site exceeds 8 to 9 MVA, during the full buildout phase; however, it could be constructed during infrastructure development. The second substation would be constructed when it is needed, based on specific development approvals.	• A new south substation would be required. Puget Sound Energy would assess the need for a second substation when the load from the site exceeds 40 MVA.	• No major electrical system upgrades would be required.

Alternative 1	Alternative 2	No Action Alternative
• A new 115 kilivolt (kV) overhead transmission line would be needed along Southcenter Parkway (between the two new substations). Installation of an additional 115 kV overhead transmission line between the Boeing Aerospace Substation and the new substation along Southcenter Parkway would also be required.	• A new 115 kV overhead transmission line would be required between the new substation and Boeing Aerospace substation. A new 115 kV overhead transmission line would also be needed between the O'Brien Transmission Substation and the West Valley Highway. However, the 115 kV transmission line along Southcenter Parkway would not likely be needed.	• No major electrical system upgrades would be required.
• At full buildout, the estimated total natural gas demand would be 490,000 standard cubic feet per hour (scfh).	• At full buildout, the estimated natural gas demand would be 360,500 scfh.	• At full buildout, the estimated natural gas demand would be 70,500 scfh.
• An 8-inch high pressure gas main and a new district regulator would be required, as well as additional intermediate piping as necessary to serve individual buildings. If specific building development proposals are approved during the infrastructure development phase, these facilities would be constructed within the expanded Southcenter Parkway right-of-way during infrastructure construction. Otherwise, these facilities would be constructed during the full buildout phase. If the gas piping cannot be located within the completed Southcenter Parkway, an alternate route through the site would be used.	• An 8-inch intermediate pressure gas main and an upgrade to the existing district regulator would be required, and would be installed within Southcenter Parkway during the infrastructure development phase.	• The 6-inch intermediate pressure natural gas main within Southcenter Parkway would be relocated and extended to serve the site along with the construction of the roadway during the infrastructure development phase. No other improvements to natural gas facilities would likely be required, beyond extensions to individual parcels within the site; however, however, this analysis is preliminary and it is possible that future specific developments could require additional facility needs.
Mitigation Measures		
• Mitigation measures associated with potential construction-related impacts to utility systems would be incorporated into the construction permits that would be required for the Infrastructure Development Phase. Such measures would include: coordination with the City of Tukwila, Highline Water District, Puget Sound Energy and other	• Same as under Alternative 1.	• Same as under Alternatives 1 and 2.

Alternative 1	Alternative 2	No Action Alternative
relevant utility services regarding the design and installation of major utilities as part of the Southcenter Parkway extension. In addition, the applicant would coordinate with Puget Sound Energy regarding the location of new substation(s) to serve future development at Tukwila South.		
• Improvements to the City's wastewater system that would be necessary to accommodate additional development within the Tukwila South planning area would include: - Increasing the capacity of Pump Station No. 2, located at Minkler Blvd and Andover Park West; - Possible need for increasing the capacity of an off-site pressure main (from Minkler Blvd. to Strander Blvd., within Andover Park West); - Replacement, upsizing and extension of a sewer main within Southcenter Parkway from Minkler Blvd. to S 180th Street; and, - Construction of a sewer line from S 180th Street to the City limits along Southcenter Parkway (this project would be coordinated with the planned Southcenter Parkway extension).	• Same as under Alternative 1.	• Such improvements to the City's wastewater system may or may not be necessary.
• In order to preclude the need for additional maintenance flushing of the sewer system that could result from the use of a gravity sewer system (prior to buildout of the site), a lift station could be constructed to insure adequate flow through the major sewer trunk line in Southcenter Parkway.	• Same as under Alternative 1.	• Depending on the specific sewer system improvements, additional flushing or a lift station may or may not be required.
Significant Unavoidable Adverse Impacts		
• No significant unavoidable adverse impacts to utility systems would occur, as analyzed.	• Same as under Alternative 1.	• Same as under Alternatives 1 and 2.